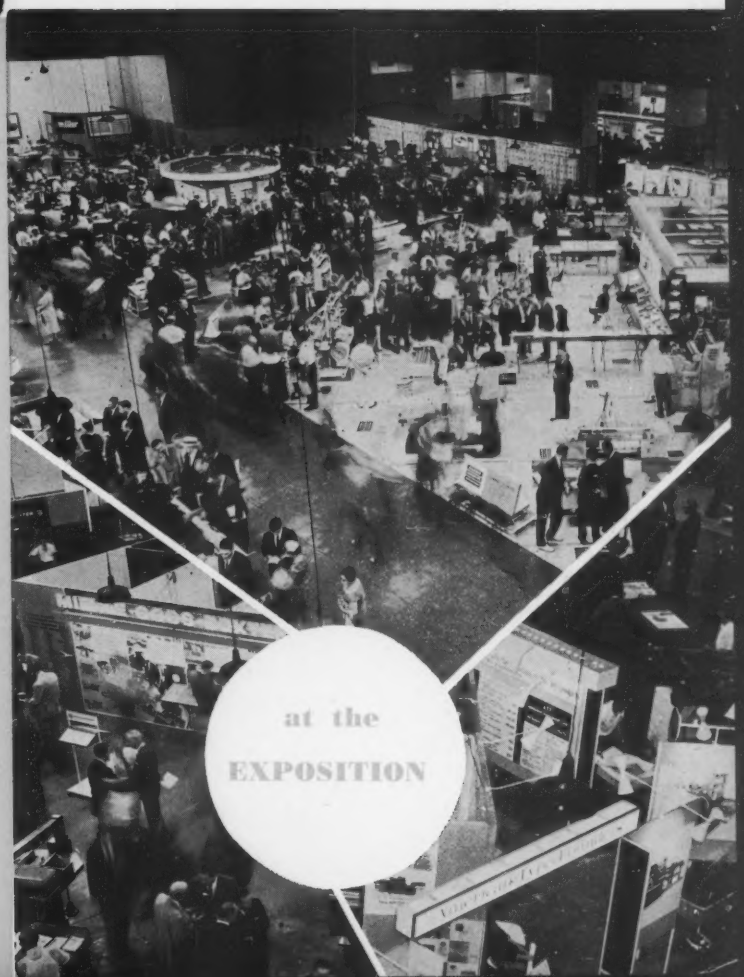
TECHNICAL DEPARTMENT

Modern LITHOGRAPHY



at the EXPOSITION

In this issue

Report on Exposition, Spectra Shows

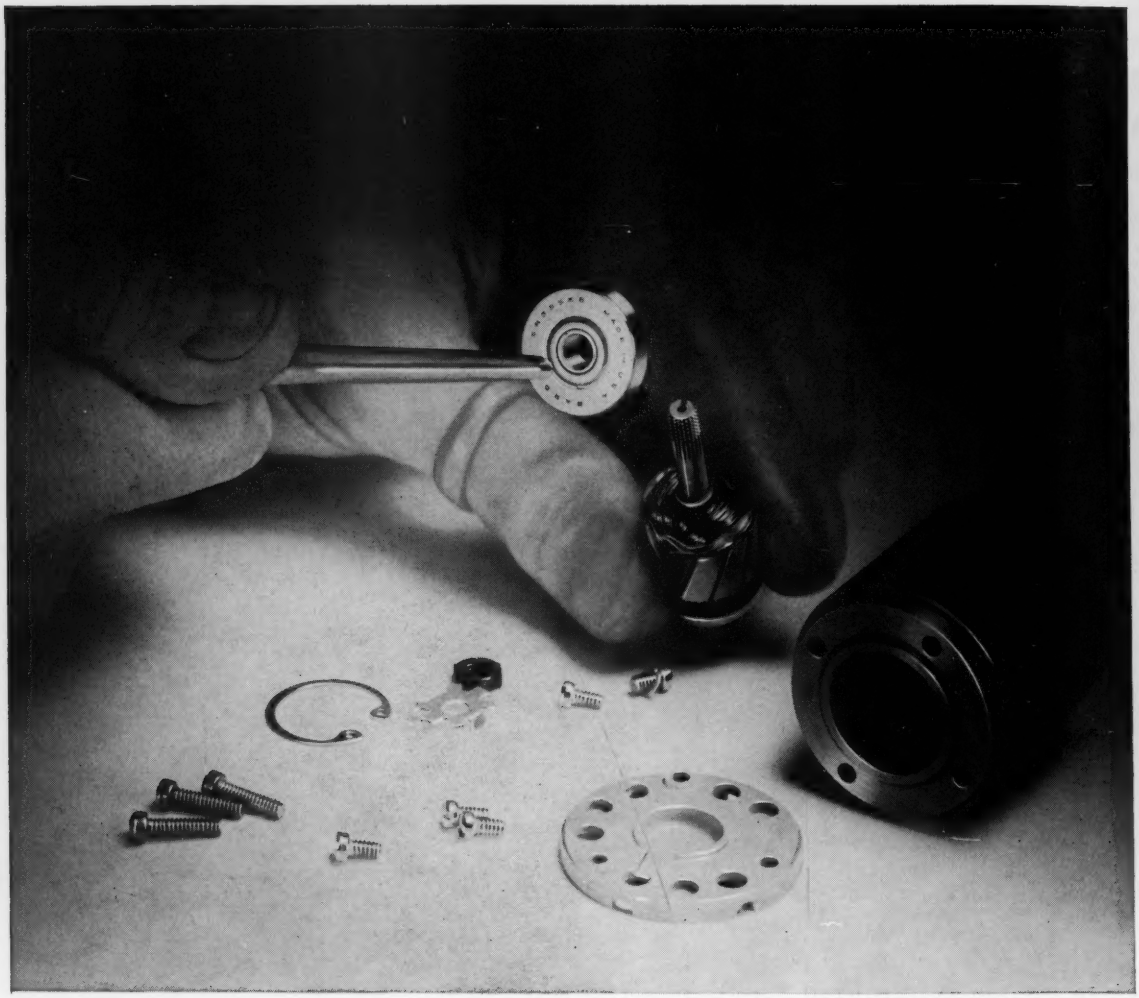
PIA, Craftsmen Meet

Tips for Pressroom

New Developments In Lithography

Heart of Litho Is Stone

OCTOBER, 1959



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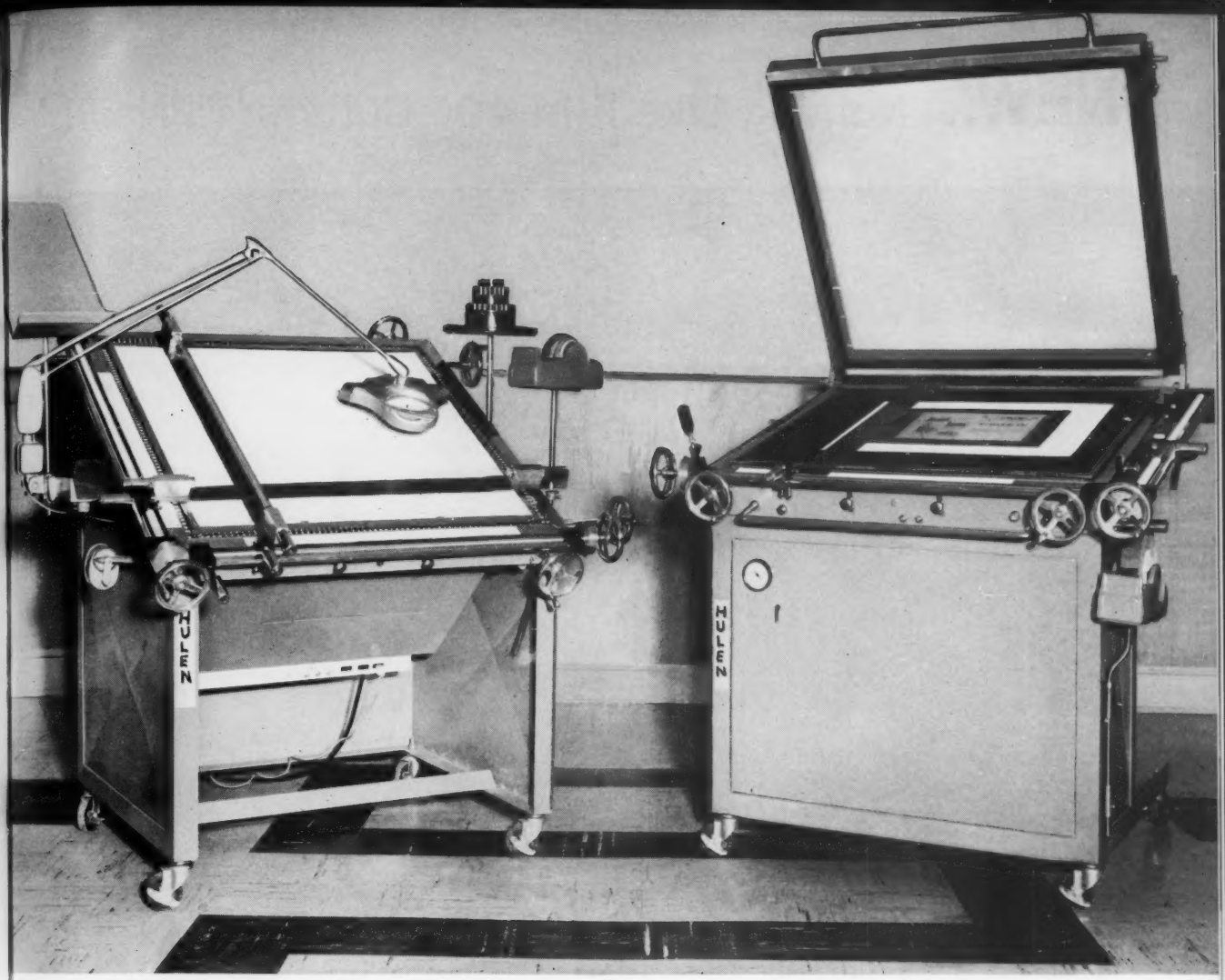

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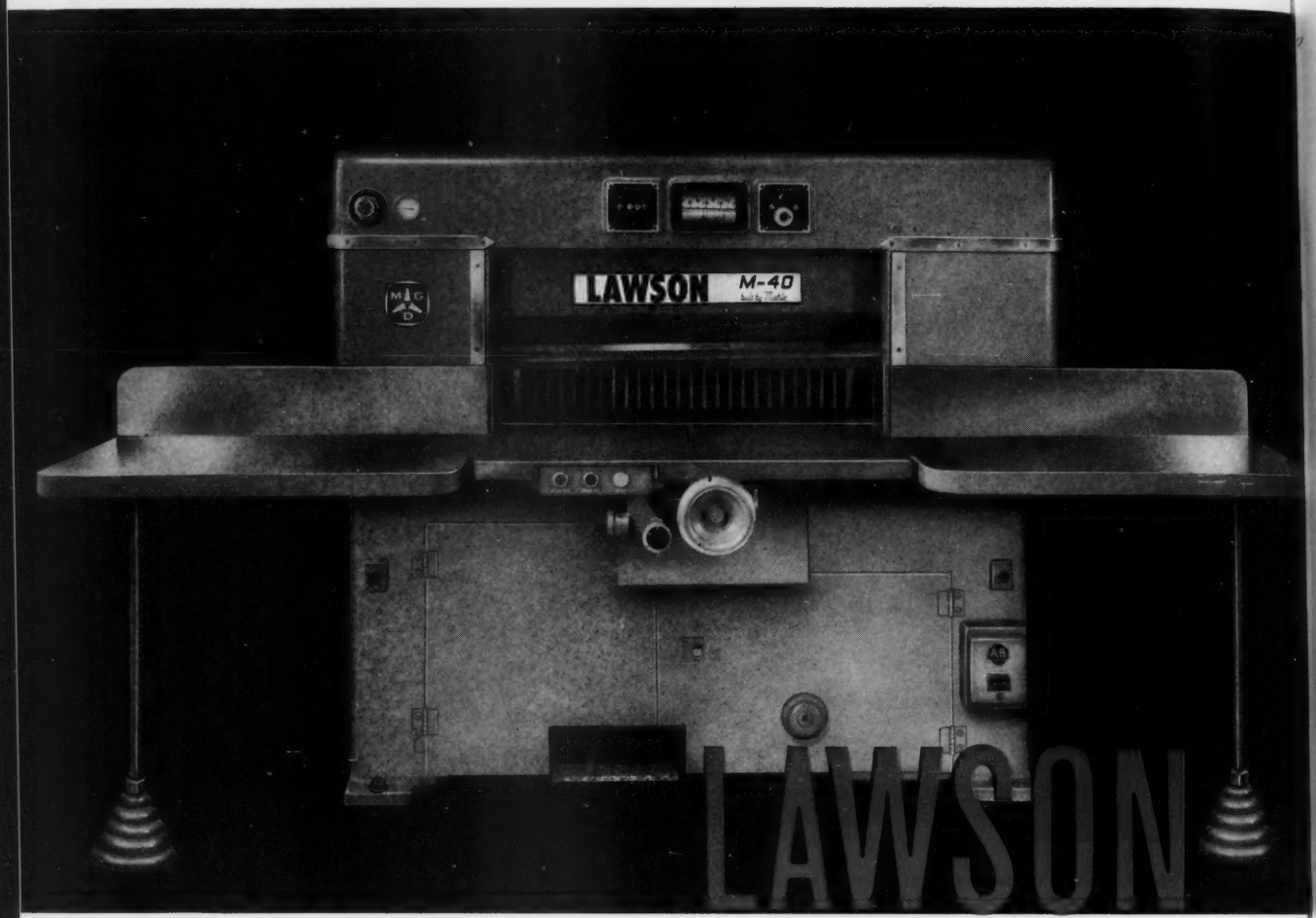

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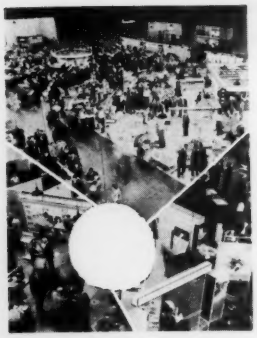

Cover

Well, it's all over . . . even the shouting. The Graphic Arts Exposition played to an audience of at least 100,000, as reported in our article on page 48. Nearby, the Spectra show also attracted a good crowd (page 50). And then there were the PIA and Craftsmen meetings (page 51) from which four talks are published in this issue. All in all, quite a month! Cover shows portions of photos taken by ATF, Harris-Intertype, and M-G-D.

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MODERN LITHOGRAPHY

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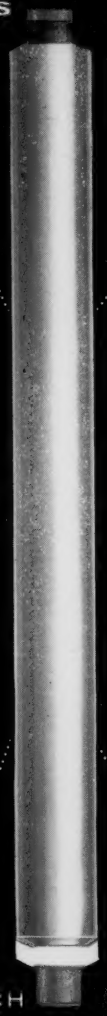
NEW INKING ROLLER IMPROVES OFFSET PROCESS

NEW BINGHAM SHAMROCK ROLLER



THE ROLLER WITH THE VELVET TOUCH

HERE, at last, is a Litho inking roller that always lays an all-over *uniform* ink film, with *no* unevenness and *never* a "strand" . . . every dot of the finest halftone *accurately* reproduced . . . a roller that no Litho ink, oil or solvent can penetrate . . . a roller that washes quicker and easier, yet lets you go from dark to light with *no* danger of "creep through."

Bingham research, developed an utterly new synthetic-rubber compound for this new Shamrock roller. *It is the closest-grained, most impervious-to-ink rubber-roller material ever produced!* Always washes clean, quick! And it's stabilized—for longer life at accurate dimensions.

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Its light green color (an impregnated, permanent, insoluble dye) *shows* when it's clean. Be sure, when you order, to specify "Shamrock" . . . the *only* inking roller with "the velvet touch."

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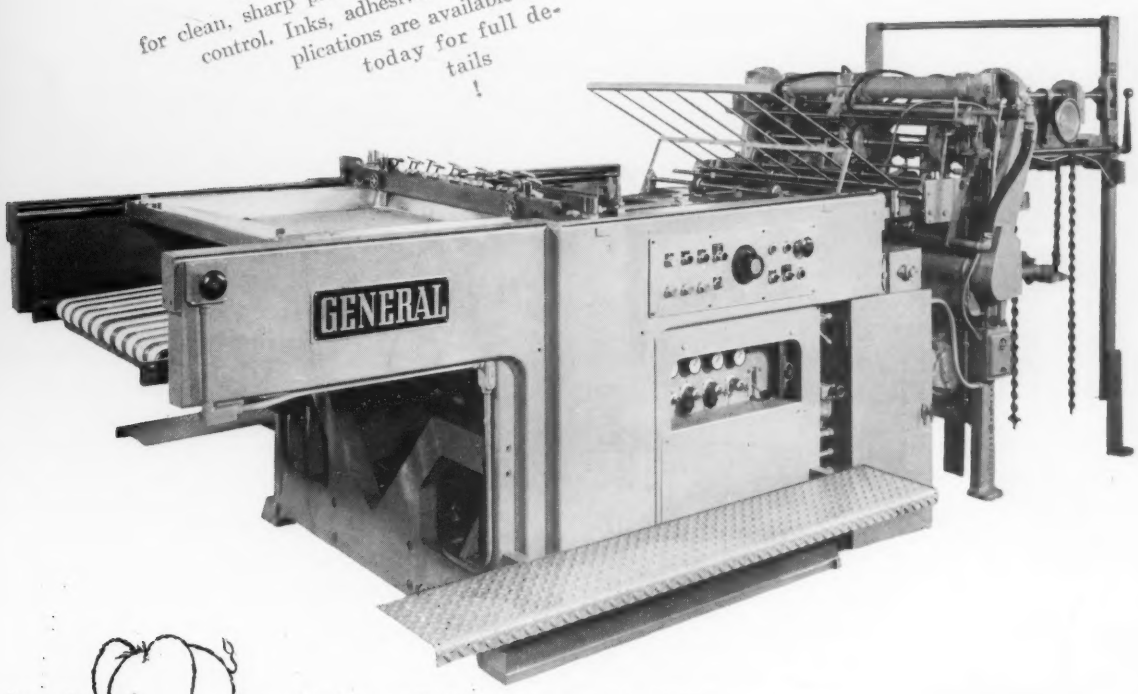

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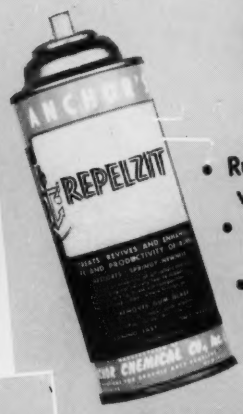
Performance — through dependable quality



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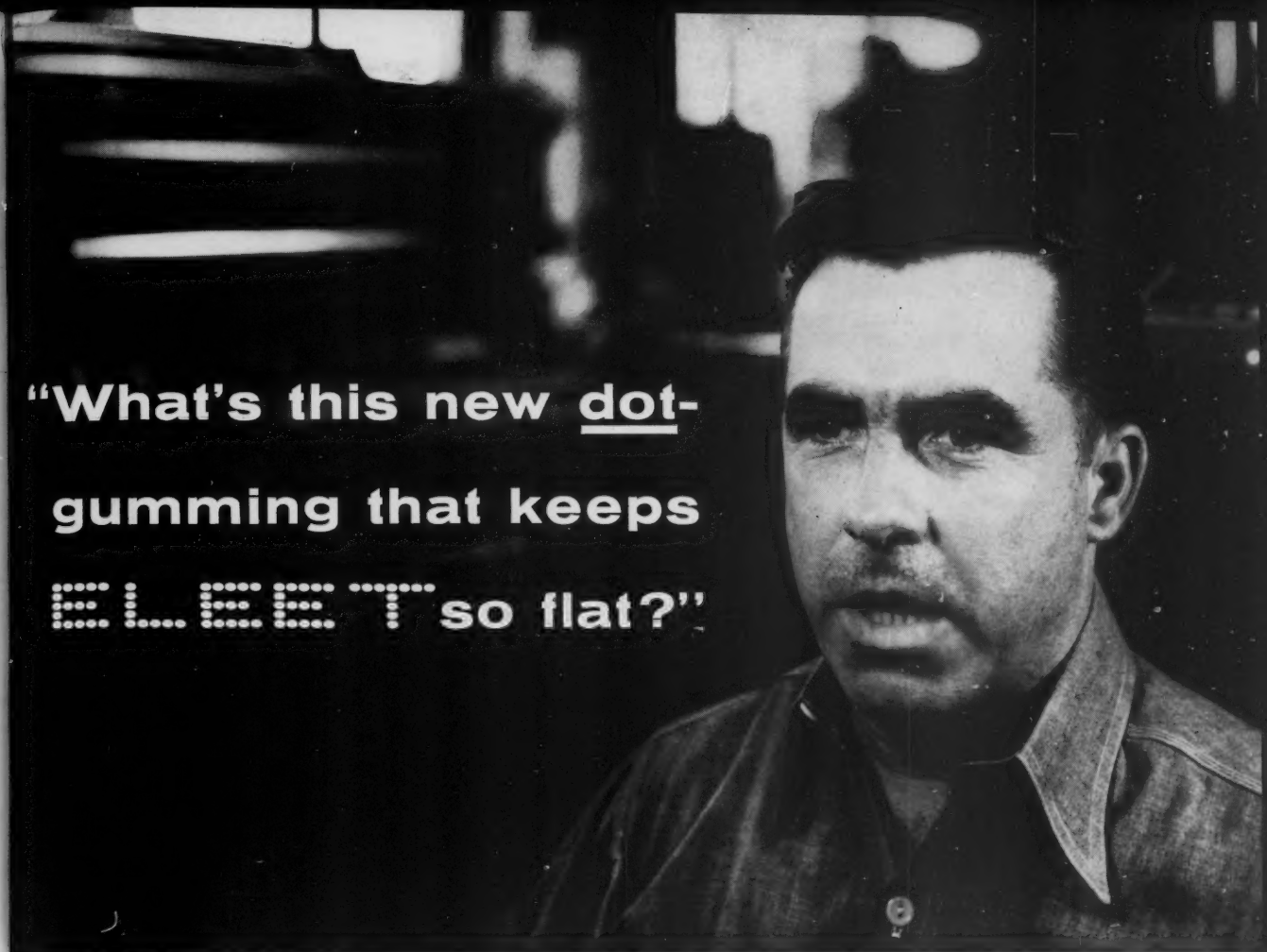

A good question. And the answer *could* make a big difference in your profit picture — especially if you've ever turned down label jobs because "they're not worth the headaches."

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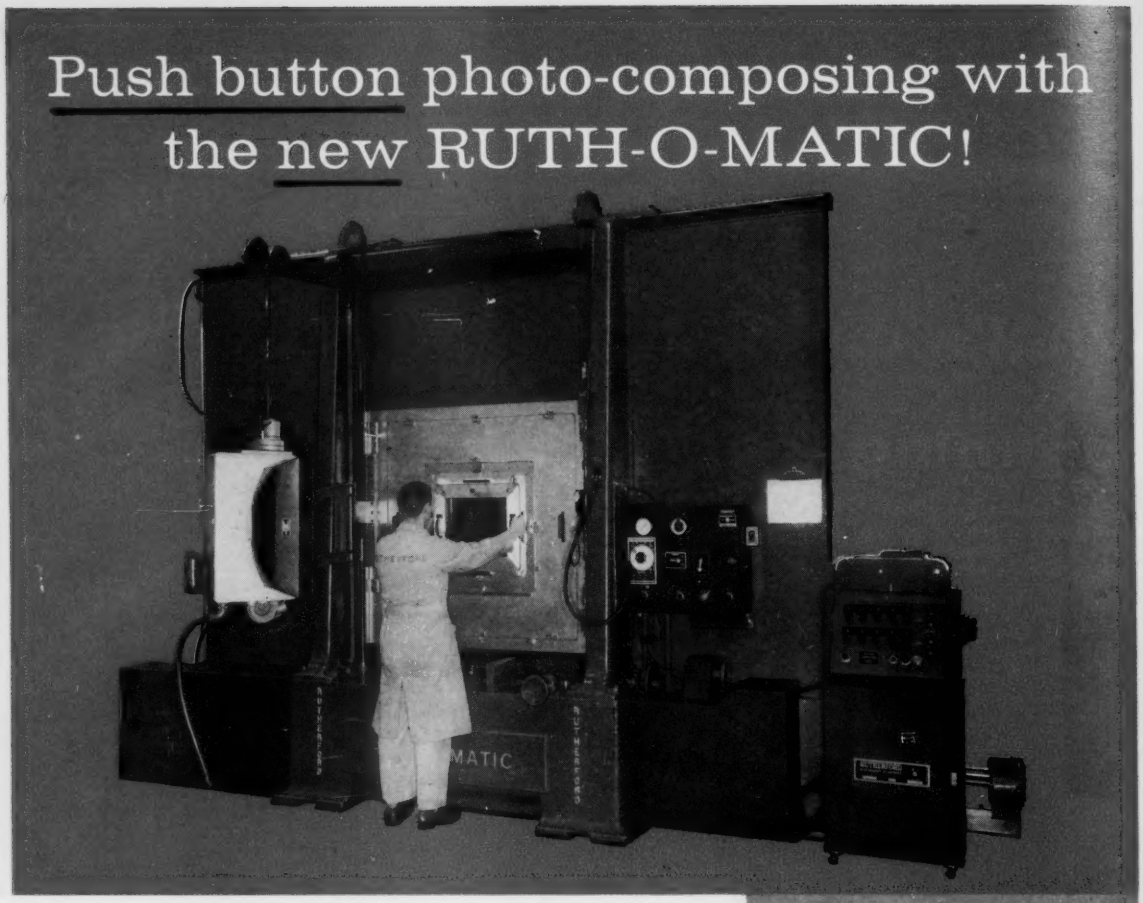

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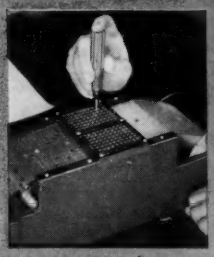
The entire step-and-repeat pattern is punched on plastic tape which can be used again to duplicate the original layout with perfect uniformity and accuracy.



Push a button . . .

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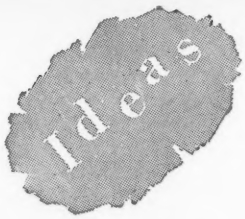
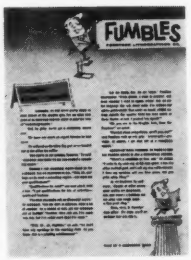


Sell Litho



THERE are all kinds of promotions lithographers can do to tell their customers and potential customers about the advantages of their shops. Even the lowly postcard mailed regularly and with a useful message, can do a good job. A new self-advertising campaign that we feel will be successful is the one inaugurated last month by Poertner Lithographing Co., Denver. The specimen at hand is the first of a proposed series, featuring the comic character "Fumbles," a likeable ne'er-do-well through whose colorful speech the shop imparts its tips and pointers on using offset, with particular emphasis on the advantages of using Poertner. Four-page folder is 8½ x 11", the first issue using yellow and black ink. Topics include copy preparation and fitting, and visualization of screens and tints in various percentages.

Have you had an idea for a novel use of offset, or have you played a part in selling such a job? If so, why not share your experience with other readers in this column? If response warrants, it will be a regular feature in ML. Please send a sample or photo with your letter.

Hold Autumn Dinner

The Graphic Arts Association of Cincinnati, Inc., held its autumn dinner meeting on Sept. 22 in the Netherland Hilton Hotel, with William A. Mitchell, president of the Central Trust Co., as the speaker.

Litho Schools

Canada—Ryerson Institute of Technology. School of Graphic Arts, 50 Gould St., Toronto, Ont., Canada.

Chicago—Chicago Lithographic Institute, 1611 W. Adams St., Chicago 12, Ill.

Cincinnati—Ohio Mechanics Institute, Cincinnati, Ohio.

Cleveland—Cleveland Lithographic Institute, Inc., 1120 Chester Ave., Cleveland 14, Ohio.

Los Angeles—Los Angeles Trade Technical Junior College, 1646 S. Olive St., Los Angeles 15, Calif.

Minneapolis—Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis 3, Minn.

Minneapolis Vocational High School, 1101 Third Ave. South, Minneapolis 4, Minn.

Nashville—Southern School of Printing, 1514 South St., Nashville, Tenn.

New York—New York Trade School. Lithographic Department, 312 East 67th St., New York, N. Y.

Manhattan School of Printing, 72 Warren St., New York, N. Y.

Oklahoma—Oklahoma State Tech., Graphic Arts Dept., Okmulgee, Okla.

Rochester—Rochester Institute of Technology Dept. of Publishing & Printing, 65 Plymouth Ave., South Rochester 8, N. Y.

Pasadena—City College, 1570 E. Colorado St., Pasadena, Cal.

Philadelphia — Murrell Dobbins Vocational School, 22nd and Lehigh, Philadelphia, Pa.

Pittsburgh—Carnegie Institute of Technology School of Printing Management, Pittsburgh.

San Francisco—City College of San Francisco. Ocean and Phelan Aves., Graphic Arts Department.

St. Louis—David Ranken, Jr., School of Mechanical Trades, 4431 Finney St., St. Louis 8, Mo.

Vancouver—Clark College.

West Virginia—W. Va. Institute of Technology. Montgomery, W. Va.

Trade Directory

Internatl. Assn. Ptg House Craftsmen
P. E. Oldt, Exec. Sec'y.
Room 307; 411 Oak St., Cincinnati 2.

Lithographers and Printers National Association
Oscar Whitehouse, Exec. Dir.
1025 Connecticut Ave., N.W., Wash., D. C.

Lithographic Tech. Foundation
William H. Webber, Exec. Dir.
131 East 39th St., New York 16, N. Y.

National Assn. of Litho Clubs
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National Assoc. of Photo-Lithographers
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317 West 45th St., New York 36, N. Y.

National Metal Decorators Assoc., Inc.
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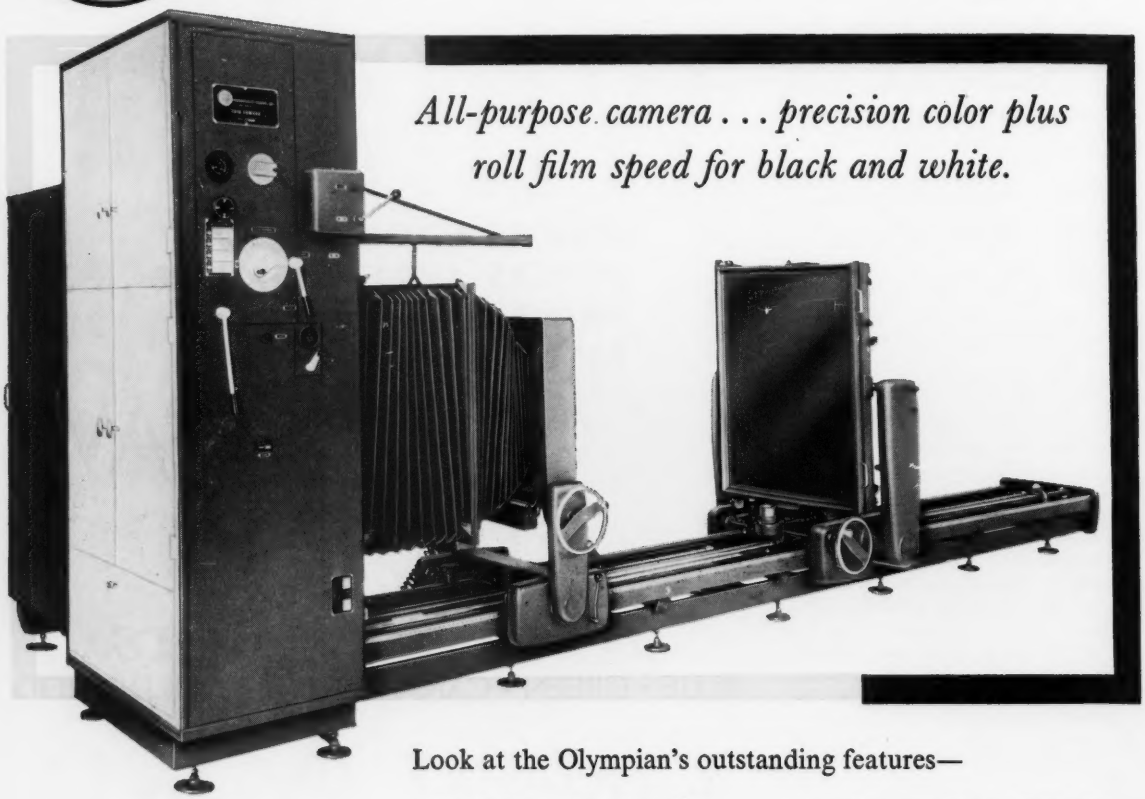
OLYMPIAN



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THE OLYMPIAN is designed to handle the most critical color work and also perform as a high speed, roll film black and white camera. Now in operation in lithographic, commercial and newspaper engraving galleries, the Olympian has proved its "double-duty" value.

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- Magazine holds four rolls of film up to 30" wide.
- New exclusive vacuum back automatically controls vacuum to exact size of film to be exposed.
- Circular, rectangular and contact screen holders slide into dust-free storage compartment to left of camera box.
- Film and screen controls located on right side of camera.
- Motor driven vertical and horizontal movement of lensboard controlled from darkroom and lensboard.
- Motor driven transparency holder rotates for rapid truing up and superimposing. Controlled from both darkroom and copyboard.
- 3-point register system provides for independent positioning of color masks.
- Overhead light carrier eliminates vibration.

For full information and specifications on this new all-purpose camera write for "Olympian" brochure.

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Dislikes 'Bowel Humor'

Dear Sir:

Recently I attended a meeting in New York run under the auspices of one of our graphic arts associations, at which there were 400 in attendance. Men presumably with a serious interest in the announced discussion subject.

The general tenor seemed to be an unwarrantedly facetious treatment of almost everyone and everything. The trade journals naturally came in for their share. These were described as "those bulky packages which come in the mail and from which you remove the wrapper and throw it in the waste basket, then throw the contents in the file."

At the close of the morning session, I came away with the conviction that there is only one Bob Hope and that whatever he is paid, he is probably worth it.

At lunch we were treated by the speaker to some of the resurrected bowel humor of the late Chic Sale. If this type of wit has a place anywhere, I submit that it is not with meals.

As you probably know, we are pretty busy here and I am not given to griping merely for the sake of griping. This letter is going to a number of trade magazine editors for whom I have a considerable degree of respect, and whose contributions to printing have been of unquestionable value. Without exception they are literate and possess good taste. I believe that these qualities might well be combined in their editorial columns to raise the general level of association meetings in our industry.

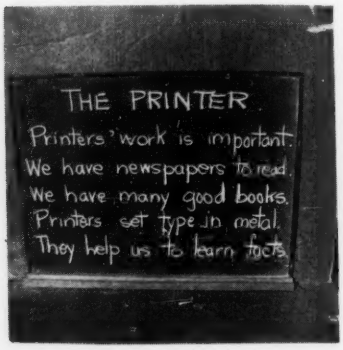
J. W. Rockefeller, Jr.
J. W. Rockefeller, Jr. and Associates
Short Hills, N. J.

Printing in Schools

Dear Sir:

Children in the schools these days are giving some deserved academic attention to a group of tradesmen long overlooked . . . the printers. It seems that in their listing of "community personnel giving invaluable service to the people," a local class of youngsters decided to list the printers, and to give them some attention. A cali was made to a newspaper plant, where the children might take a tour, and see printers "in action."

Though attention to the printers may not always happen in this way, the schools are actually the most logical places for such interest to begin. After all, how can teachers better instill an interesting, lasting, and appropriate appreciation for books, without telling about the work of the print-


THE PRINTER
Printers' work is important.
We have newspapers to read.
We have many good books.
Printers set type in metal.
They help us to learn facts.

ers, and the presses? The children may be studying about communication, too, and in that subject often express interest in learning more about the printer's work.

Even the very youngest grades of children can devote some school time to broadening their appreciation of the printer. Sometimes, a father is in that occupation, and comes in for a brief talk; or, a visit to a plant yields valuable resource materials, as the youngsters bring back "samples" of printed matter, etc. They find that printing is really an exciting industry, and has many fields of endeavor. On learning that Ben Franklin was a printer, one lad said, "Golly, then it *must* be important!"

One wonderful outcome of studying printing is that children derive a greater sense of values, with respect to printed materials of all kinds, especially their reading books. Print is fascinating, and they are shown various kinds, which they try to simulate in art class. Small toy print sets may appear on display; comparisons of how slow copying by hand would be to printing on high-speed machines helps

(*Continued on Page* 128)

Meetings

National Metal Decorators Association, 25th annual convention, Roosevelt Hotel, New Orleans, Oct. 12-14, 1959.

National Association of Photo-Lithographers, annual convention and exhibit, Hotel Muehlebach, Kansas City, Mo., Nov. 18-21, 1959.

Southern Graphic Arts Association, 39th annual convention, Hotel Eola, Natchez, Miss., April 21-23, 1960.

Lithographers and Printers National Association, annual convention, Boca Raton Club, Boca Raton, Fla., April 25-28, 1960.

National Association of Litho Clubs, 15th annual convention, Hotel Statler, Boston, May 19-21, 1960.

Technical Association of the Graphic Arts, 12th annual meeting, Washington, D. C., June 20-26, 1960.

Printing Industry of America, 74th annual convention, Sheraton Park Hotel, Washington, D.C., Oct. 24-27, 1960.

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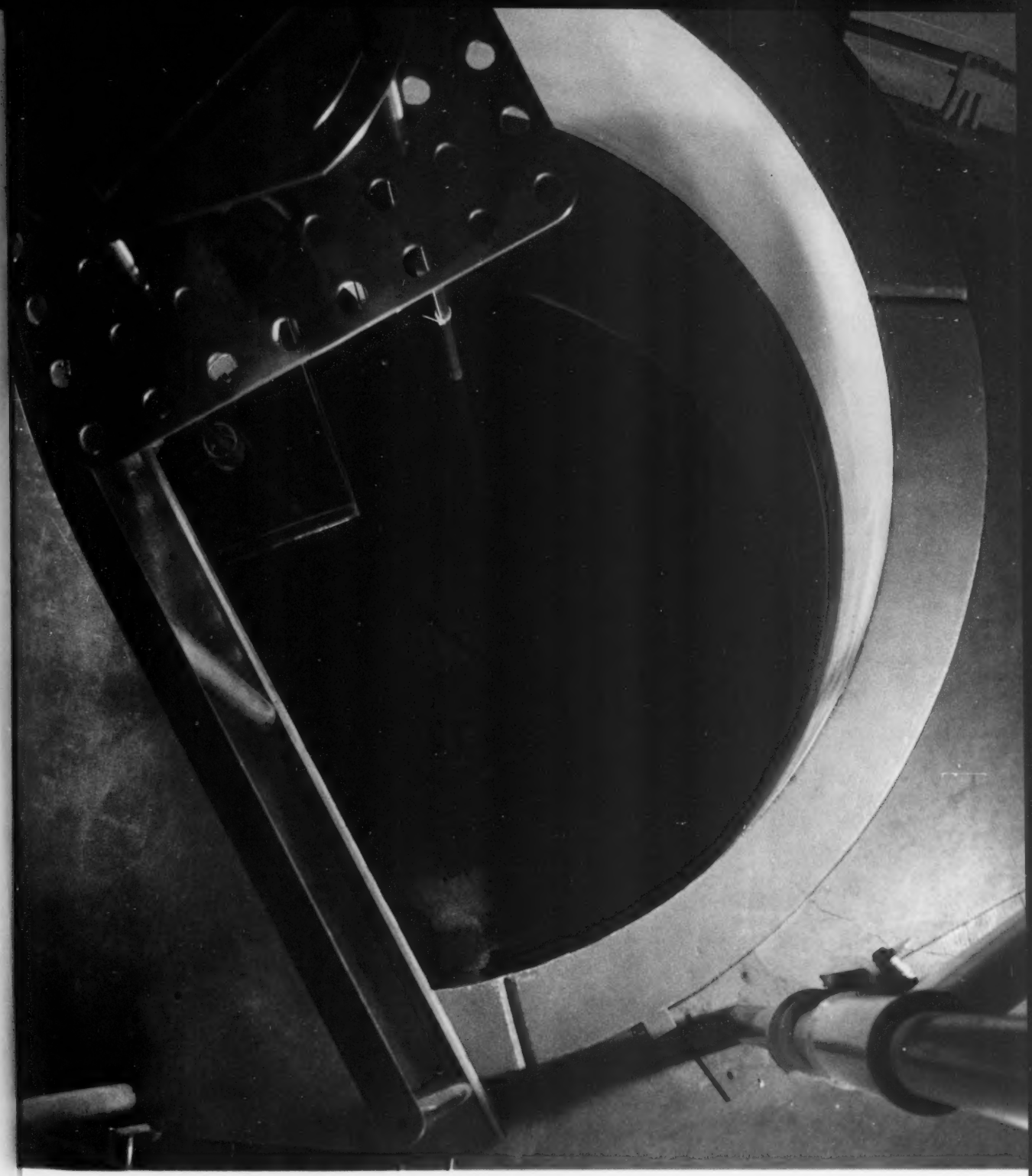
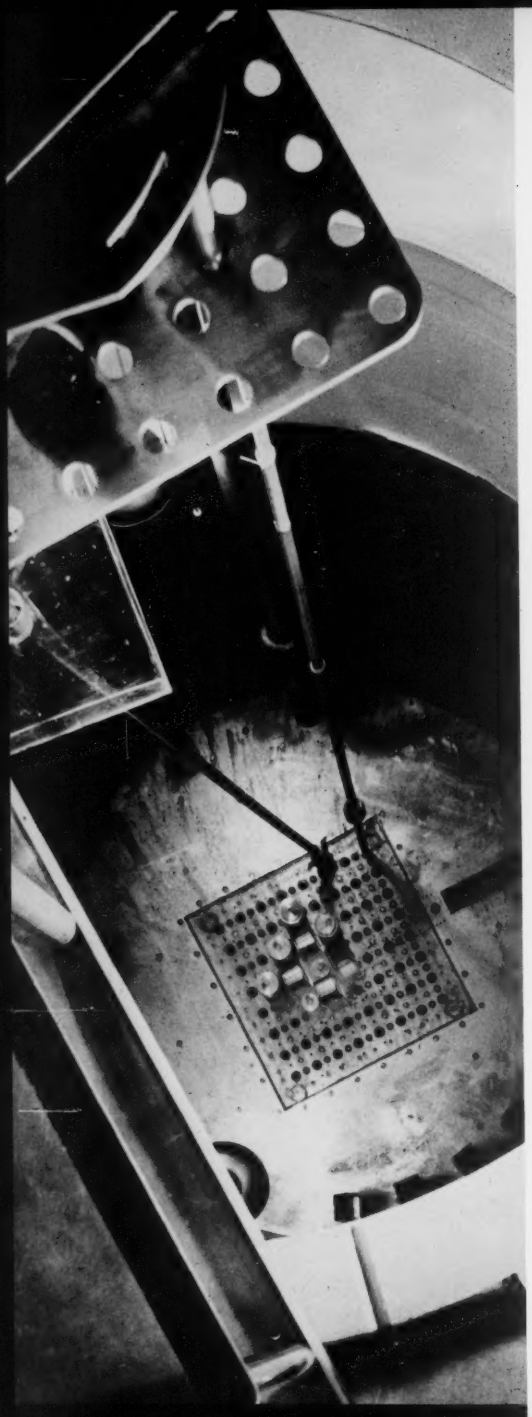


from 3M's Research Center . . . with tools such as controlled atomic radiation . . . come new and exciting products to make tomorrow more promising for printers!

3M COMPANY



...where research is the key to tomorrow!

The 24-foot gamma radiation well shown on the preceding page exemplifies the scope of work in progress at 3M's Research Center. With advanced equipment such as this, 3M's scientists and engineers work tirelessly to create, develop, and produce new and exciting products and methods for the printing industry.

This is a process of analysis and exploration . . . to analyze industry need . . . to explore the fields of chemistry and physics. Often, hundreds of possible ideas are discarded for just one product or method that reaches the development stage . . . that comes up to the high standards of 3M quality, practicality, and performance.

3M's promise to you is that the products and methods it now markets—such as those below—have been rigorously tested in the laboratory, thoroughly tried in the field by printers, and quality proven. And, those products soon to come will fulfil the same requirements—to make tomorrow more promising for the printing industry.

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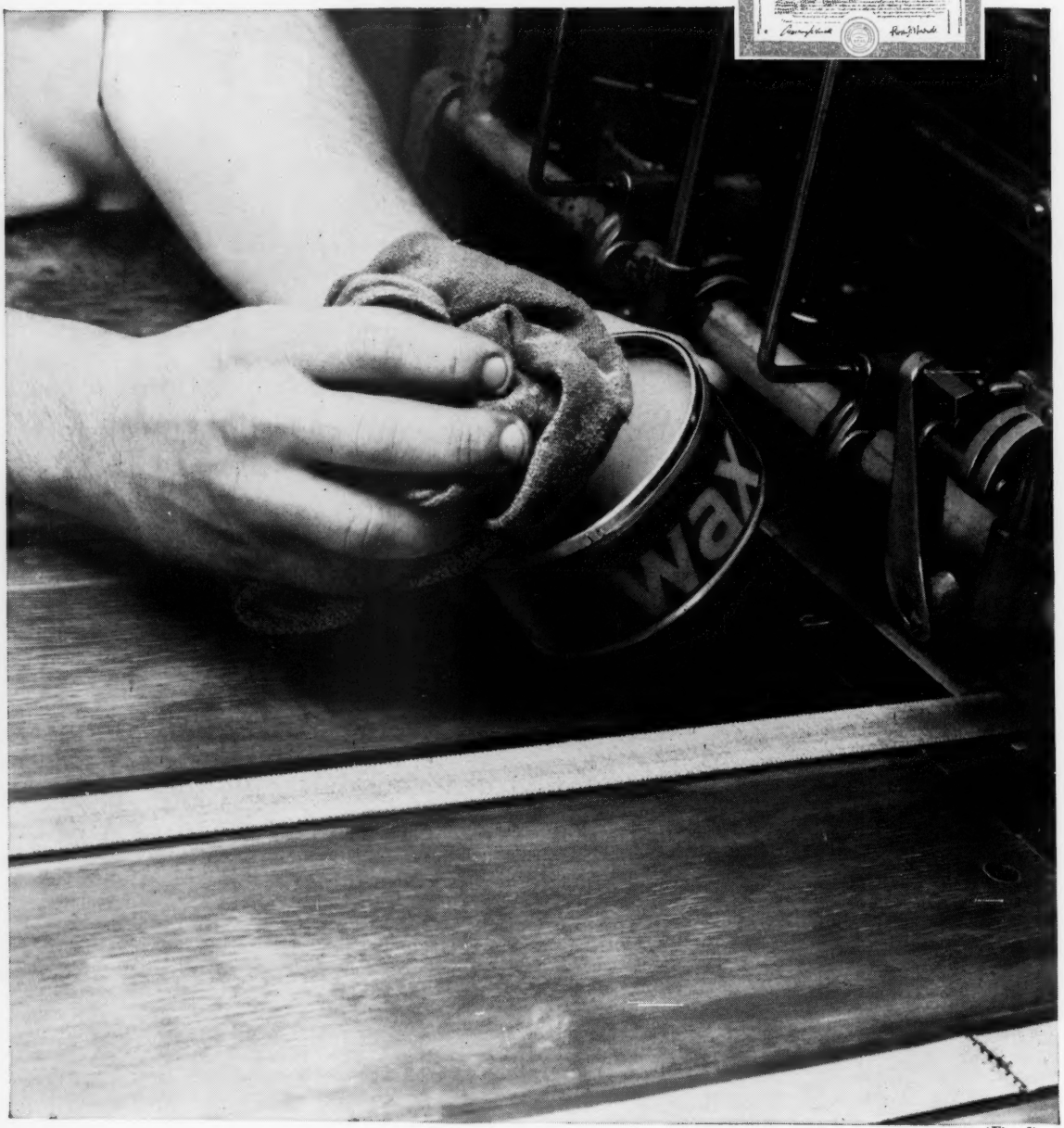
LET'S SWAP IDEAS!

Earn a share of Kimberly-Clark stock!



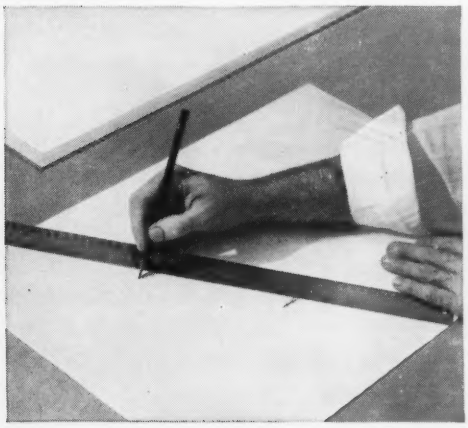
(Fig. 1)

Here's how easy it is to earn your share of stock!

No doubt, from time to time you have made some little time-or-money-saving improvement in your shop. Or in a shop where you work. Maybe it was a short cut in production, in presswork, in the way you do business. Whatever the idea, no matter how simple, it may earn a share of stock for you. All you do is write it out clearly and send it to Kimberly-Clark. No elaborate explanations are needed. However, pictures or drawings you may have that help explain the idea are welcome.

All items become the property of Kimberly-Clark. For each idea chosen to appear in subsequent national magazine ads, a share of Kimberly-Clark stock will be awarded to the sender. In case of similar contributions, only the first received will be eligible for the stock. Decisions of the judges are final. A total of eighteen shares will be awarded.

Ideas like these could be "stockearners"!



(*Fig. 2*)

(*Fig. 3*)

"Waxes away" static electricity. (*Fig. 1*) Static electricity can be kept to a minimum by applying any common auto wax to the flat surfaces of a letterpress, offset press or folder. A single application of the wax will last from three to six months.

How to cut sheets to exact fractions. (*Fig. 2*) When cutting paper stock in thirds, fifths, any fraction, it is impossible to measure exactly with an ordinary yardstick. However, by placing your ruler at an angle on an easily divisible number, you can get perfect results. For example, if you want to cut a 17-inch sheet into thirds, simply angle your ruler to 18 inches, mark it at 6 and 12, and you've got it!

Rubber stamp pad saves proofing. (*Fig. 3*) It is often necessary to attach a proof of a small cut, for identification purposes, to an insertion order, receipt or layout. By simply inking the cut on an ordinary stamp pad, you can make an impression wherever you wish.

Swap ideas with your Kimberly-Clark merchant!
Tell him your requirements and he will help you choose the right paper for the job.

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PRINTING PAPERS

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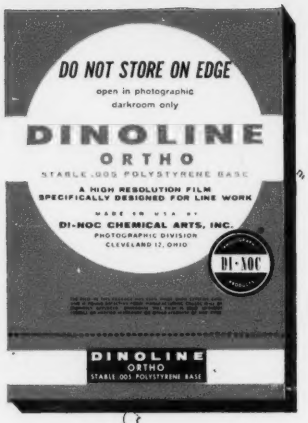
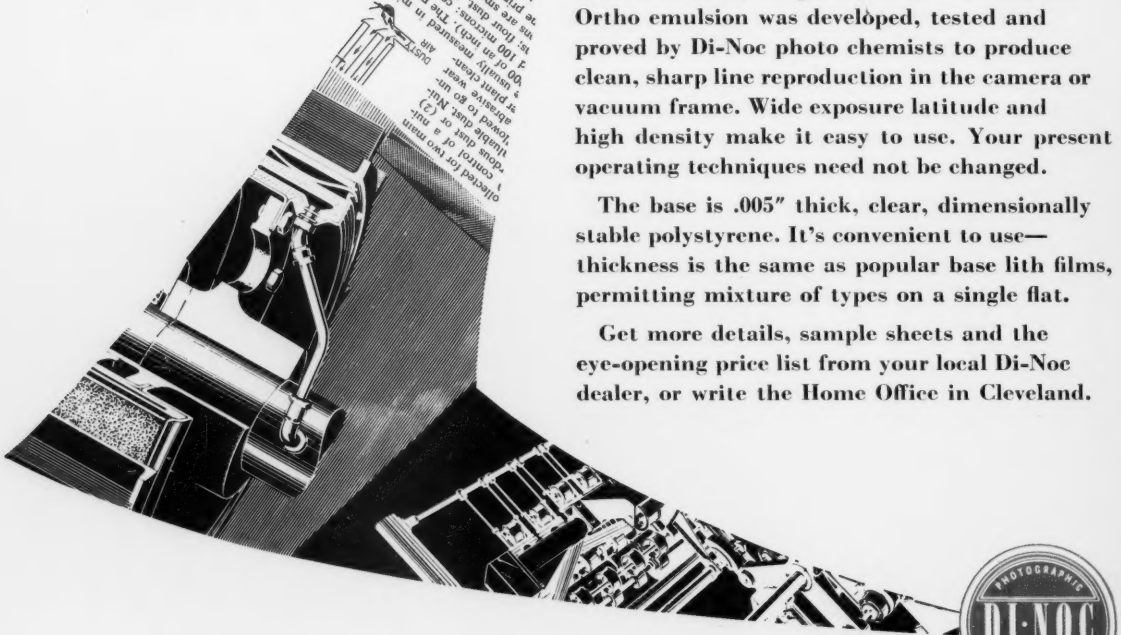


A LABEL YOU SHOULD KNOW

DINOLINE ORTHO



You can now cut the cost of all your line work—with no sacrifice in quality. The new Dinoline Ortho emulsion was developed, tested and proved by Di-Noc photo chemists to produce clean, sharp line reproduction in the camera or vacuum frame. Wide exposure latitude and high density make it easy to use. Your present operating techniques need not be changed.

The base is .005″ thick, clear, dimensionally stable polystyrene. It's convenient to use—thickness is the same as popular base lith films, permitting mixture of types on a single flat.

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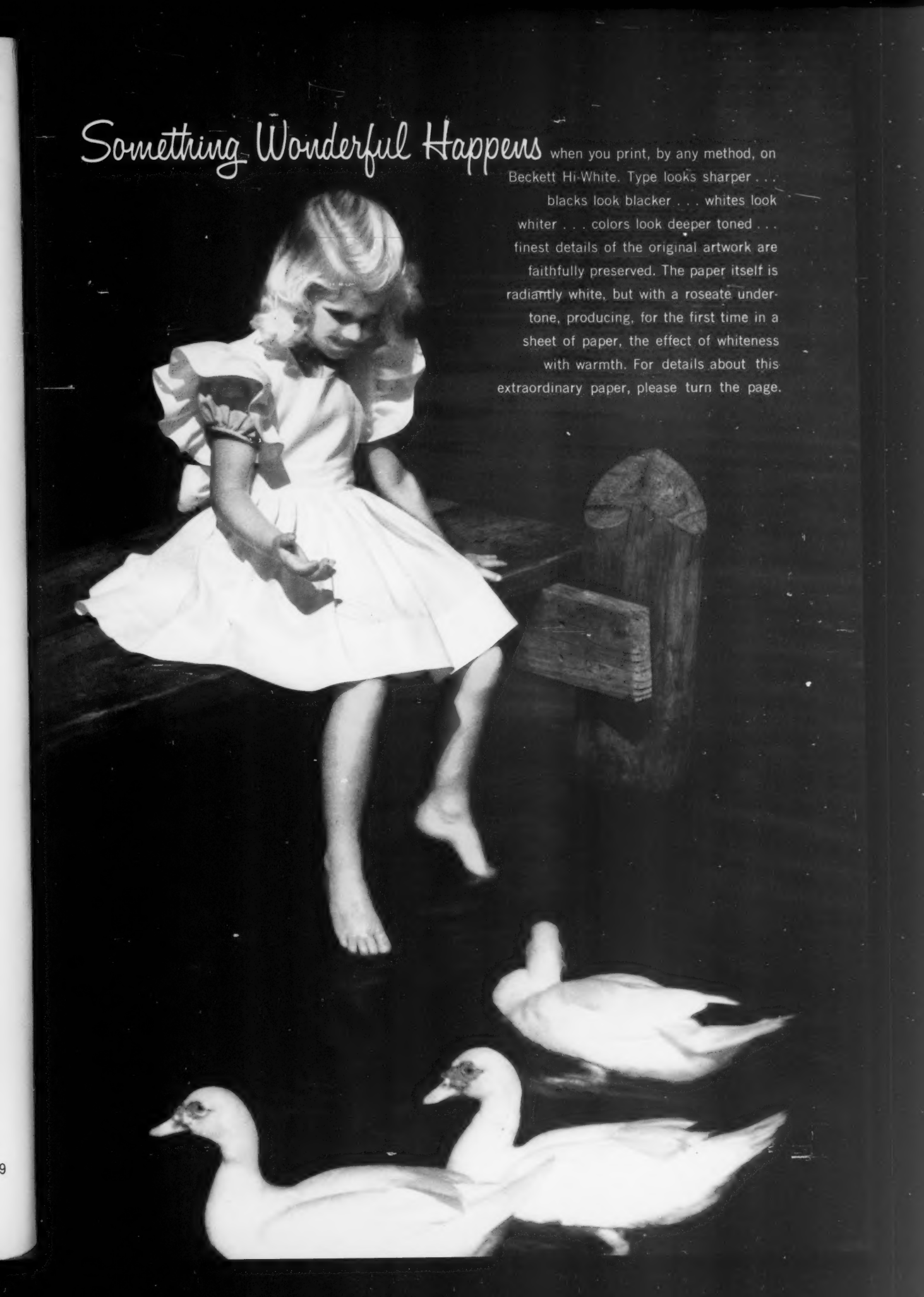
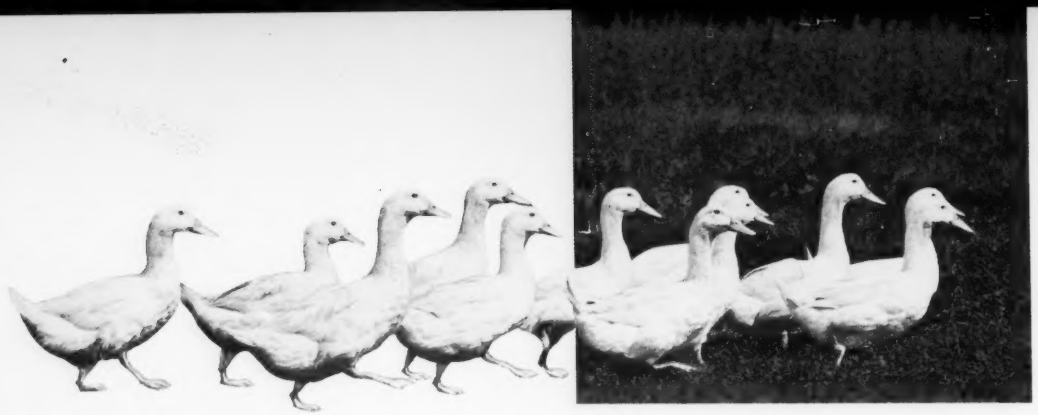

Something Wonderful Happens when you print, by any method, on Beckett Hi-White. Type looks sharper . . . blacks look blacker . . . whites look whiter . . . colors look deeper toned . . . finest details of the original artwork are faithfully preserved. The paper itself is radiantly white, but with a roseate undertone, producing, for the first time in a sheet of paper, the effect of whiteness with warmth. For details about this extraordinary paper, please turn the page.



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Hi-White

is available in four standard basis weights —70, 80, 100, and 120 lbs., and in four popular sizes.

In addition to Smooth Vellum, Beckett Hi-White can be supplied in a variety of fancy finishes.

Its matching cover stock, Hi-White Buckeye Cover, is made in four weights and is available in Antique, Smooth Vellum and a variety of fancy finishes.

Complete sample books on request.

THE BECKETT PAPER COMPANY

MAKERS OF GOOD PAPER IN HAMILTON, OHIO, SINCE 1848

BUCKEYE-BECKETT PAPERS

Full color illustration courtesy of Faultless Starch Company.

This is BECKETT HI-WHITE, Coral finish, 100 lb.

Do you want your business to GROW?

Feed your work to an ATF WEB Offset Press

You don't have to be a giant in the printing business to take advantage of the high production and profits from an ATF Web Offset Press. Small, medium and large printers, in ever-increasing numbers, have successfully planned their growth around such installations. Here are some of the important reasons why:

You produce at speeds up to three times as fast as the fastest sheet-fed equipment (plus the extra advantages of inline folding, imprinting, perforating, etc.). It is not unusual to find printers turning out 25,000 or more impressions per hour on ATF Web equipment. *That* is production at a *real profit.*

You can get top quality at these high speeds. Many ATF Web Press owners tell us the quality of work produced is equal to that of the finest sheet-fed presses, and easier to achieve. Some say web press printing is superior.

Just examine the tremendous volume of all types of printing being done on these presses—folders, circulars, catalogs, pamphlets, broadsides, house organs, magazines, etc.—and you'll realize how fully competitive web offset is today.

You can start with as few units as you wish, add more when your business warrants it. ATF Web Offset Presses are built on the unit construction principle so you can add to them at any time.

You produce finished jobs on most ATF Web Offset presses—printed, cut and folded (plus other operations, if required). Many of these ATF Web Presses are designed with a folder, or folders, built-in. Think of it this way: you print the job and the folding is free! Or, stated another way, the printing is done for the cost of the separate folding operation when you print on a sheet-fed press. While you would normally think of the folding as being the bonus on a web press, the reverse is equally true: you could say you are getting the printing done for nothing when folding. This brings the economy of web press operation into very sharp focus.

Flexibility to suit your needs is available in ATF Web Offset Presses. On a four-color press, for example, you can run four colors on one side, three on one and one on the reverse, or two colors on each side. On perfecting (blanket-to-blanket) ATF Web Presses, you can print on more than one web of paper at a time, and with the proper press arrangement you can print more than one job on the press at one time—giving you advantages you cannot obtain with any other press equipment.

Exclusive engineering features are yours in ATF Web Offset Presses. ATF's patented cylinder arrangement and patented lead rollers give you simple, effective control of the web when printing and insure accurate register. These are just two of the advantages you can get only from ATF.

What about length of runs? It is true, of course, that ATF Web Presses are ideal for producing long runs at good profit. All printers like big jobs, but they may tie up the whole shop and require so much handling that profits disappear. This is where the ATF Web Press takes over—profitably. But these presses handle *more* than just the big orders. Many shops find they can gang up short runs (when several require the same stock) and turn them out in a fraction of the time required by sheet-fed presses. If sizes, colors and stock are the same on many jobs, you'll find that very short runs can be made with top profits.

Job printing on a web press is especially profitable on the ATF Green Hornet, which prints from rolls up to 17½" wide, delivers cut sheets 11½" long. This press, available in two, three or four-color models, prints one or both sides of the web, and can be equipped with numbering and imprinting units as well as slitters and perforators.

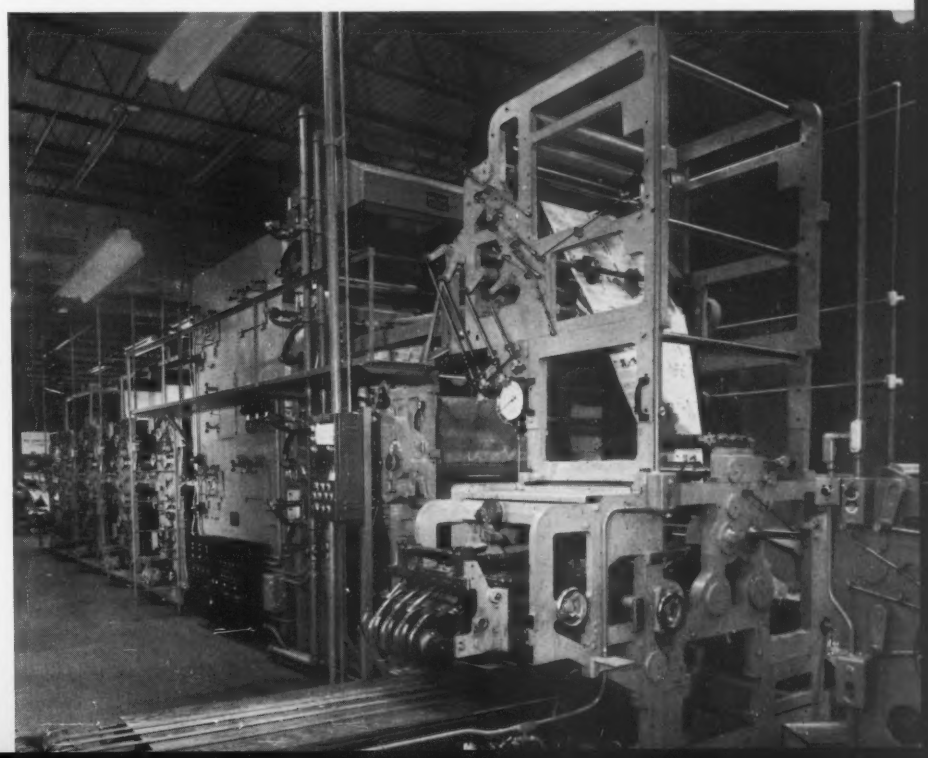
ATF offers a selection of web presses to suit most requirements: a full line of standard business forms presses, five standard-sized web offset publication presses, and the web-fed Green Hornet commercial job presses.

Why not find out how one of them can help your business grow? Ask your ATF Web Division Representative, or write to the Web Division.

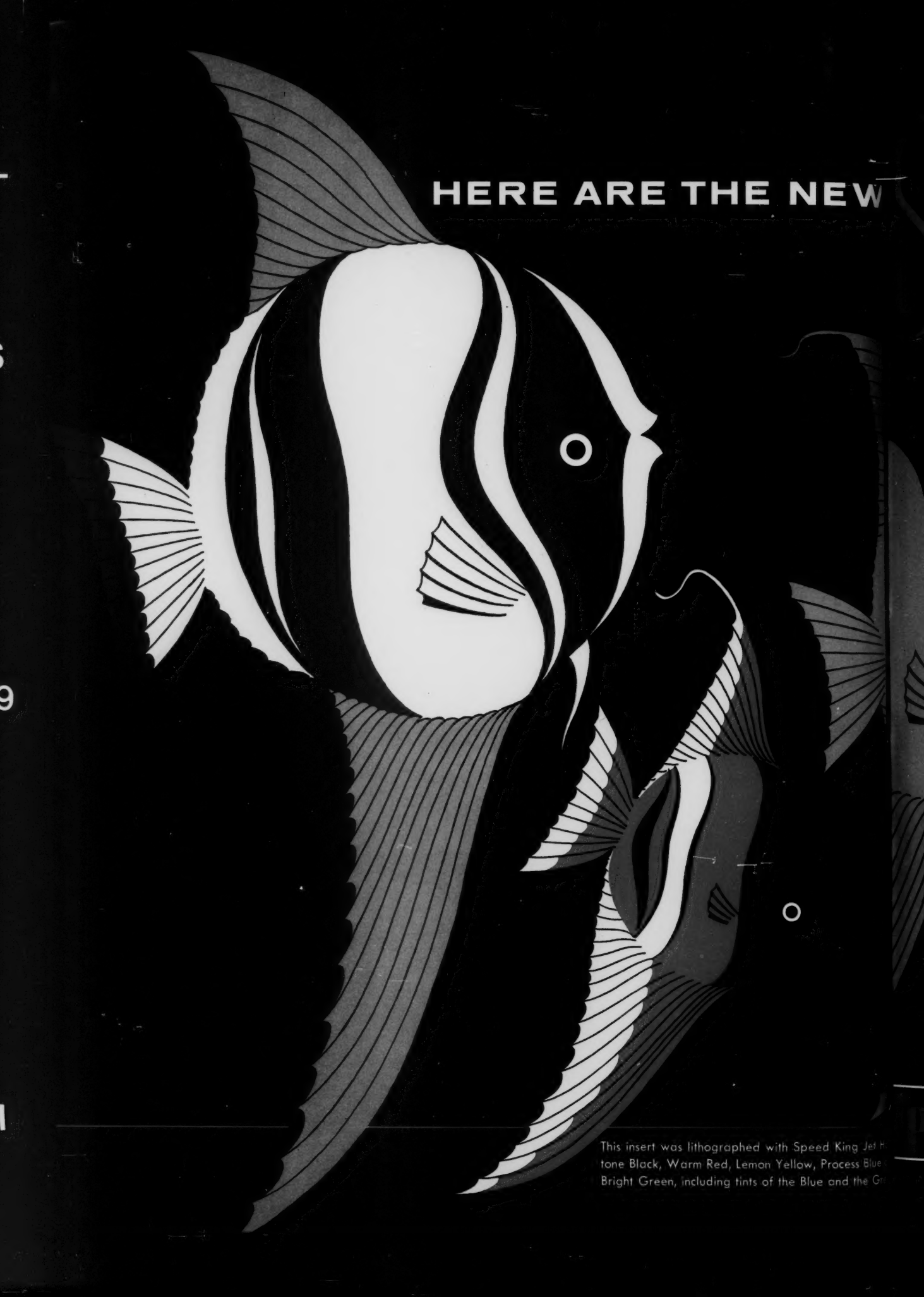
ATF **Get ahead with an ATF Web**

American Type Founders

200 Elmora Ave., Elizabeth, N. J.



Typical installation of a 22¾ x 35" ATF Web Publication Press.


HERE ARE THE NEW
This insert was lithographed with Speed King Jet H
tone Black, Warm Red, Lemon Yellow, Process Blue
Bright Green, including tints of the Blue and the Gr

Speed King

LITHO INKS

And here is an entirely new concept of ink quality and press performance! Here, in IPI Speed King inks, is everything you need for prestige lithography. Speed King inks have high color strength ... always clean, clear and brilliant, wet or dry. They stay press-ready until used, set in seconds, dry fast and bind beautifully. Perfect for straight color work, process, special colors, black and white — even cartons. Get the whole wonderful Speed King story from the man from IPI!

Also available in convenient one and five pound cans, in 17 popular colors.

IPI, IC and Speed King are trademarks of Interchemical Corporation.

INTERCHEMICAL CORPORATION • PRINTING INK DIVISION

EXECUTIVE OFFICES: 67 WEST 44th STREET, NEW YORK 36, N. Y.

One of the ways

Marvelous Friden JUSTOWRITER

can do your business typesets (with justified margins) at big savings

On this Justowriter Recorder (unit #1) any typist becomes an expert type compositor. Her usual typing -- without involving special positioning or extra time -- produces simultaneously (a) a typewritten sheet, for visual check, and (b) punched paper tape with identical copy coded into the tape holes.

Justowriter unit #2, the Reproducer, receives code tape ... "reads" it ... and automatically composes the original copy in clear, accurate, justified-margin form. All kinds of copy -- straight matter, centered, run arounds, line leaders, tabular matter handled at 100 words a minute.

Jobs like these* result from Justowriter professionally composed typesets on direct image plates, as used by duplicating machines, or reproduction proofs suitable for lithographic printing.

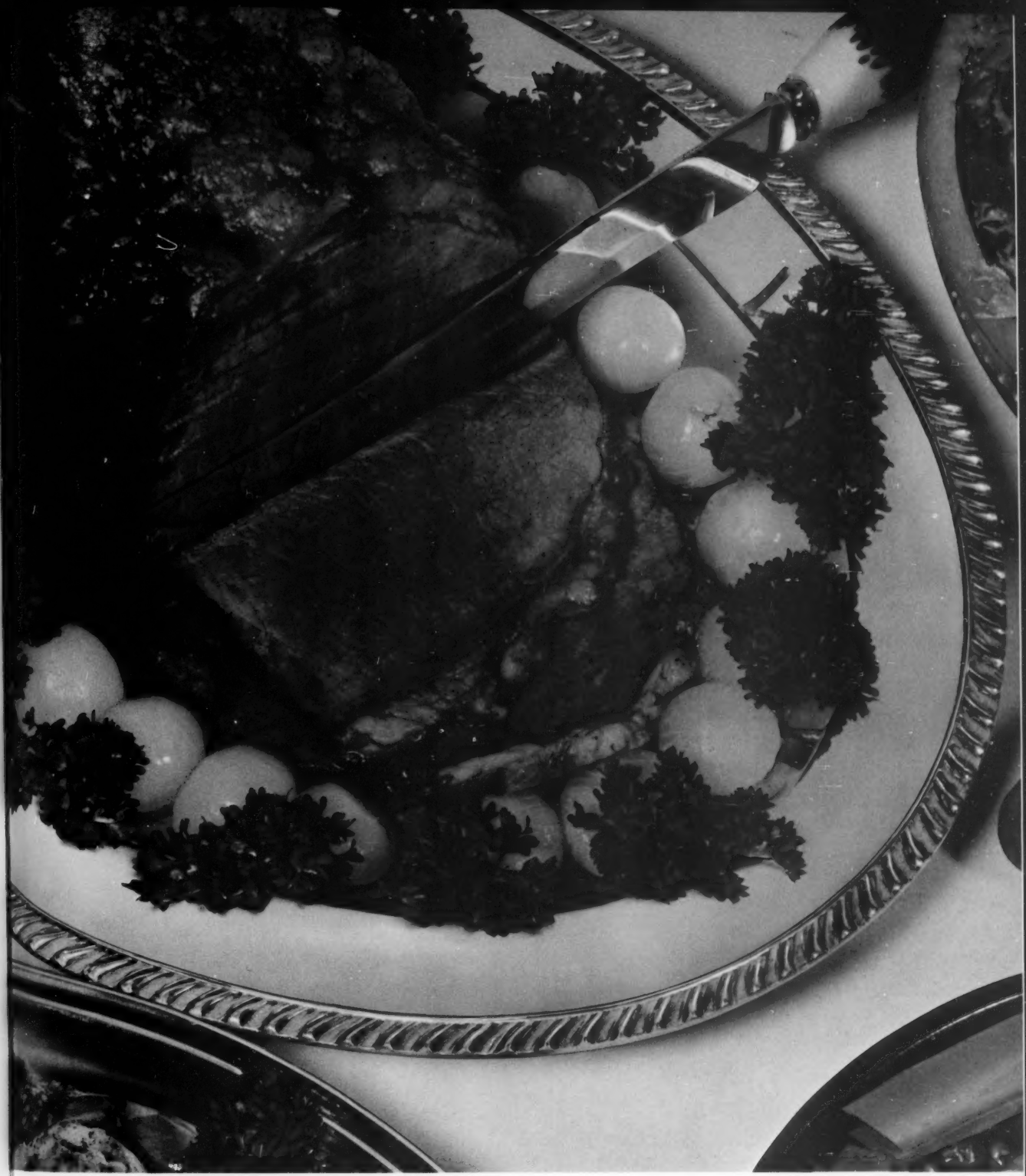
Compared with hot metal composition, Justowriter type-composition yields real cost savings.

The finished work is attractive, as you can see from this printing (itself set on the Justowriter and showing Justowriter-controlled justified-margins.) Fourteen different Justowriter type faces, sized from 8 to 14 points, are available.

Write today on your business letterhead for additional information on the Justowriter, a basic Tape-Talk machine in today's "new world for business" created by FRIDEN, Inc., San Leandro, Calif. Sales, service, instruction throughout world.

(*bulletins, manuals, price lists, booklets, directories, catalogs, direct mail literature, house organs)

FRIDEN SILVER ANNIVERSARY 1934·1959



4-color offset reproduction

Warren's
STANDARD

Lithographic Papers

LUSTERKOTE
OFFSET ENAMEL
CAMEO BRILLIANT
OVERPRINT LABEL C1S
FOTOLITH ENAMEL
SILKOTE OFFSET
CASCO ENAMEL

This paper is Warren's Cameo Brilliant-Dull • Basis 25 x 38 - 100 (200M)

Photograph by Louis C. Williams

WARREN'S Cameo Brilliant

This insert is a lithographed demonstration of WARREN'S CAMEO BRILLIANT, basis 100 (200M). CAMEO BRILLIANT is a double-coated paper of exceptional brightness — suitable for de luxe halftone printing either by offset lithography or by letterpress. The pictures on the front and back of this insert demonstrate how effectively the paper accentuates the brightness of highlight areas and adds life to illustrations, whether in color or black-and-white.

CAMEO BRILLIANT is available in both Dull and Gloss finishes — also in the special finishes Saxony and Falmouth — in basis weights 70, 80, 100 and 120, and in cover and cover-bristol weights. The dull finish provides a non-glare background for pictures and type. The gloss finish permits the use of finer screen halftones by letterpress. The special finishes Saxony and Falmouth lend an embossed texture to lithographed prints.

Consult your Warren Merchant below for items available from local stocks.

PAPER MERCHANTS

who sell and endorse Warren's Standard Printing Papers

ALBANY, N. Y.	Hudson Valley Paper Company
ALLENTOWN, PA.	Lehigh Valley Paper Corporation
ATLANTA, GA.	Sloan Paper Company
BALTIMORE, MD.	The Barton, Duer & Koch Paper Co. Stanford Paper Company
BIRMINGHAM, ALA.	Sloan Paper Company
BOISE, IDAHO	Zellerbach Paper Company
BOSTON, MASS.	Carter Rice Storrs & Bement Inc. The Century Paper Co., Inc. Cook-Vivian-Lindenmeyr Co., Inc.
BUFFALO, N. Y.	The Alling & Cory Company Franklin-Cowan Paper Company
CHAMPAIGN, ILL.	Crescent Paper Company
CHARLOTTE, N. C.	Caskie Paper Company, Inc. Virginia Paper Company
CHATTANOOGA, TENN.	Southern Paper Company Sloan Paper Company
CHICAGO, ILL.	Chicago Paper Company McIntosh Paper Company Carpenter Paper Company
CINCINNATI, OHIO	The Diem & Wing Paper Company
CLEVELAND, OHIO	The Petrequin Paper Company The Alling & Cory Company
COLUMBUS, OHIO	The Cincinnati Cordage & Paper Co.
CONCORD, N. H.	C. M. Rice Paper Company
DALLAS, TEXAS	Olmsted-Kirk Company
DAYTON, OHIO	The Diem & Wing Paper Company
DENVER, COLO.	Carpenter Paper Company
DES MOINES, IOWA	Western Newspaper Union Newhouse Paper Company
DETROIT, MICH.	Seaman-Patrick Paper Company Chope-Stevens Paper Company
EUGENE, ORE.	Zellerbach Paper Company
FORT WORTH, TEXAS	Olmsted-Kirk Company
FRESNO, CAL.	Zellerbach Paper Company
GRAND RAPIDS, MICH.	Quimby-Walstrom Paper Co.
GREAT FALLS, MONT.	The John Leslie Paper Company
HARRISBURG, PA.	The Alling & Cory Company
HARTFORD, CONN.	Henry Lindenmeyr & Sons Carter Rice Storrs & Bement Inc.
HOUSTON, TEXAS	L. S. Bosworth Company Olmsted-Kirk Company of Houston
INDIANAPOLIS, IND.	Crescent Paper Company
JACKSON, MISS.	Townsend Paper Company
JACKSONVILLE, FLA.	Virginia Paper Company
KANSAS CITY, MO.	Midwestern Paper Company Wertgame Paper Company
KNOXVILLE, TENN.	Southern Paper Company
LANSING, MICH.	The Weissinger Paper Company
LITTLE ROCK, ARK.	Western Newspaper Union Arkansas Paper Company
LOS ANGELES, CAL.	Zellerbach Paper Company
LOUISVILLE, KY.	Louisville Paper & Mfg. Co., Inc.
LYNCHBURG, VA.	Caskie Paper Company, Inc.
MEMPHIS, TENN.	Southland Paper Company
MILWAUKEE, WIS.	Nackie Paper Company
MINNEAPOLIS, MINN.	The John Leslie Paper Company Newhouse Paper Company
MONTGOMERY, ALA.	Weaver Paper Company
NASHVILLE, TENN.	Clements Paper Company
NEWARK, N. J.	Henry Lindenmeyr & Sons
NEW HAVEN, CONN.	Carter Rice Storrs & Bement Inc. Henry Lindenmeyr & Sons
NEW ORLEANS, LA.	Alco Paper Company, Inc. Henry Lindenmeyr & Sons
NEW YORK CITY	The Alling & Cory Company Miller & Wright Paper Co. Linde-Lathrop Paper Company, Inc. The Canfield Paper Company Marquardt & Company, Inc. Schlosser Paper Corporation
OAKLAND, CAL.	Zellerbach Paper Company
OKLAHOMA CITY, OKLA.	Western Newspaper Union
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PHILADELPHIA, PA.	D. L. Ward Company The J. L. N. Smythe Company Schuylkill Paper Company
PHOENIX, ARIZ.	Zellerbach Paper Company
PITTSBURGH, PA.	The Alling & Cory Company
PORTLAND, MAINE	C. M. Rice Paper Company
PORTLAND, ORE.	Zellerbach Paper Company
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SAN DIEGO, CAL.	Zellerbach Paper Company
SAN FRANCISCO, CAL.	Zellerbach Paper Company
SAN JOSE, CAL.	Zellerbach Paper Company
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SPRINGFIELD, MASS.	Carter Rice Storrs & Bement Inc.
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TACOMA, WASH.	Zellerbach Paper Company
TOLEDO, OHIO	The Commerce Paper Company
TROY, N. Y.	Troy Paper Corporation
TULSA, OKLA.	Tulsa Paper Company
WACO, TEXAS	Olmsted-Kirk Company
WASHINGTON, D. C.	Stanford Paper Company Virginia Paper Company
WICHITA, KAN.	Western Newspaper Union

* * *

EXPORT AND FOREIGN

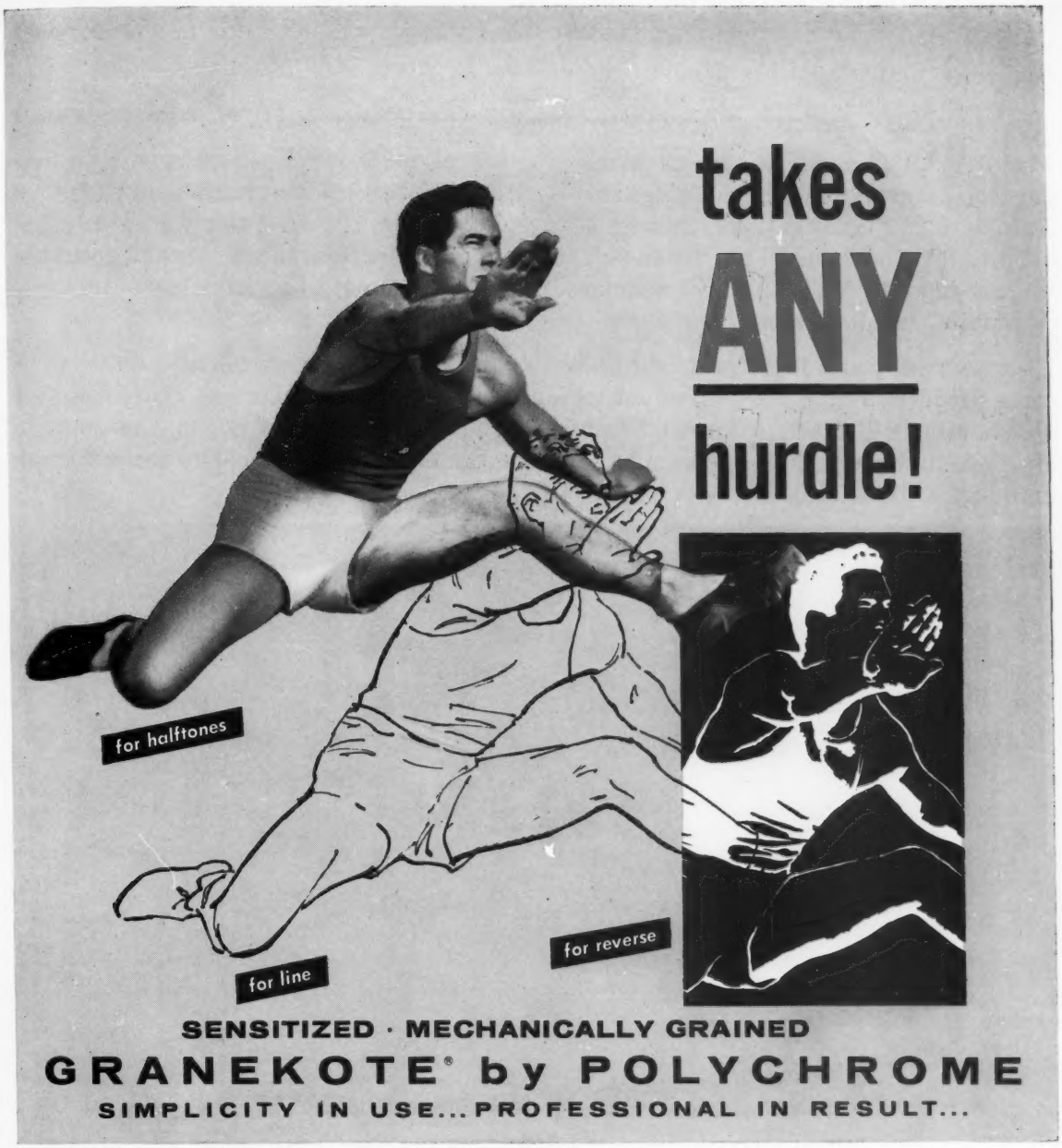
NEW YORK CITY (Export)	Moller & Rothe, Inc. *21 countries in Latin America, West Indies, Philippine Islands, Hong Kong, South Africa.*
NEW YORK CITY (Export)	Muller and Phipps (Asia) Ltd. *Belgian Congo, Hong Kong, Philippine Islands, South Africa.*
AUSTRALIA	B. J. Ball Limited
NEW ZEALAND	B. J. Ball (N. Z.), Ltd.
HAWAIIAN ISLANDS	Honolulu Paper Company, Ltd.

Write for free booklet—"How Will It Print by Offset"

S. D. WARREN COMPANY · BOSTON 1, MASS.

[BETTER PAPER Warren's STANDARD BETTER PRINTING]

Printing Papers



SENSITIZED · MECHANICALLY GRAINED

GRANEKOTE® by POLYCHROME

SIMPLICITY IN USE... PROFESSIONAL IN RESULT...

GRANEKOTE by POLYCHROME is a new sensitized mechanically grained aluminum offset plate designed to simplify the lithographic process. GRANEKOTE combines the advantages of a grained surface with the convenience and assurance of uniformity achieved by factory-applied coatings.

SIMPLICITY IN USE: No wipe-on, whirl or other fuss. Just expose, desensitize, and develop.

VERSATILITY: Makes quality reproductions of entire range of copy, from half-tones to line work, solids and reverses—all on one plate.

BALANCE: Grain structure carries reservoir of ink, which transfers a uniform film of ink to the blanket. At the same time, the non-image area holds a reservoir of water, permitting smallest reverses to remain open. These features give GRANEKOTE its "locked-in lithographic control."

EASE ON PRESS: Ink-and-water balance make for quick pick-up on press.

PROFESSIONAL IN RESULT: Maximum fidelity, sharpness and uniformity sheet-to-sheet.

For further information about GRANEKOTE® and a free demonstration, contact:

Pc POLYCHROME CORPORATION

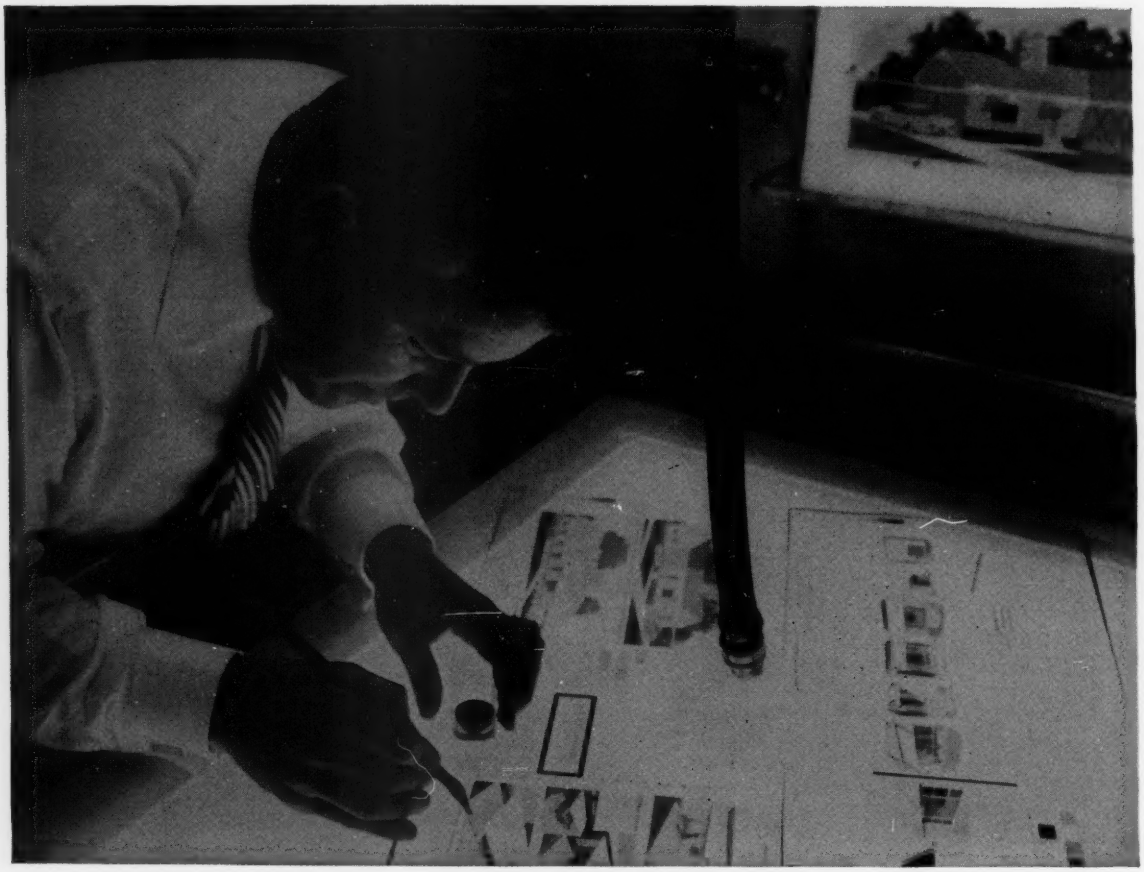
MANUFACTURERS OF GRAPHIC ARTS SUPPLIES, ... YONKERS 2, N.Y.

"CRONAR ⌖ Films have completely eliminated makeovers due to size changes and have helped cut our film inventories in half."

—Albert Goller, President, Fine Arts Lithographing Co., Inc., Kansas City, Missouri

Fine Arts Lithographing Company produces an average of one million impressions per five-day week... everything from catalogs and brochures to labels and inserts. Du Pont CRONAR Graphic Arts Films are used for most of the total requirements for this work, including CRONAR Ortho A for all projection and contact, line or halftone, negatives and positives. Since using CRONAR films, the company has eliminated out-of-register makeovers and substantially reduced operating costs.

Delicate glass plates no longer create handling or storage problems, nor do acetate films cause production delays in getting out top-quality work. In Mr. Goller's words, "Now that we are using CRONAR, jobs are handled *faster* and *easier*. We save stripping time and the etcher can release each film as he works on it rather than having to hold up the whole job until all films are finished."



Etcher Matthew Monks works on a film positive. Dimensional stability of CRONAR Films means that he does not have to hold up an entire job while working on one piece of film.

CRONAR Graphic Arts Films are saving costs and valuable time in leading shops everywhere. They can in your plant, too. Ask your Du Pont Technical Representative for more information or a demonstration. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware. In Canada: Du Pont of Canada Limited, Toronto.

⌖ *Symbol and CRONAR are Du Pont trademarks for polyester graphic arts films.*

This advertisement was prepared exclusively by Phototypography.

DU PONT
REG. U. S. PAT. OFF.

Better Things for Better Living
... through Chemistry

WHAT?

FULL COLOR LITHO

without color-separation or color-correction?

Yes, you heard right and that's why *full* color litho plates can be made for less than *half* the usual cost by the Fluoro-Color process. And that's why Fluoro-equipped litho plants are able to bid successfully on more color jobs and to make a bigger profit on the work they do.

What's the secret? It's all made possible because Fluoro-Color art is pre-separated, yet rendered in *full* color as it will appear in reproduction. You are saved the time and expense of color-separation, color-correction, hand-opaquing and hand-masking. And, because the art materials used are Fluorographic, negatives are automatically highlighted and all colors become bright, clean and vibrantly alive.

Fluoro requires no expensive equipment or capital investment. It pays its own way as it goes . . . for both Fluoro-Color and black-and-white automatic highlight halftones. A big promotional campaign in leading advertising and artist publications is selling Fluoro to *your* best prospects and customers, so you'd better be ready for this additional, profitable business. Send coupon below for complete details right now.

Fluoro-Color®

Fluoro GRAPHIC

FLUOROGRAPHIC SALES DIVISION

PRINTING ARTS RESEARCH LABORATORIES INC.

La Arcada Building • Santa Barbara, California

Clip this coupon to your letterhead for full information on Fluoro-Color and how it can bring additional, profitable business to you

NL-9

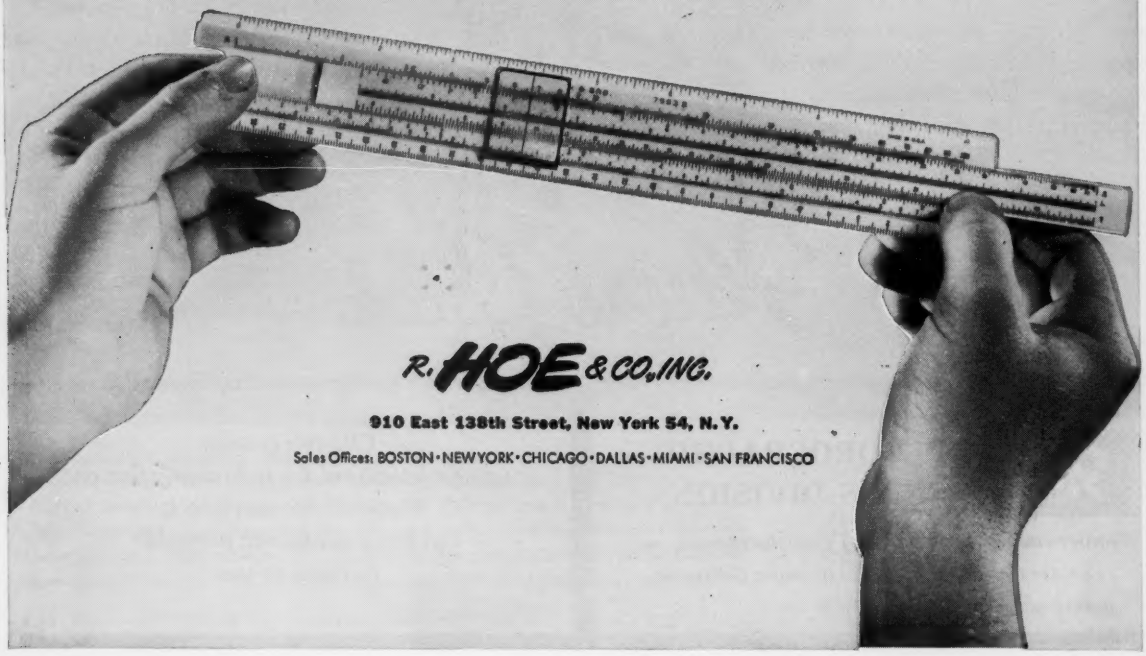
The secret of HOE's metal decorating success...

PRECISION OF CRAFTSMANSHIP

The secret is simply this: Meticulous attention to every minute detail... from superb engineering through precision manufacture.

The results speak for themselves: Unrivalled recognition for leadership in metal decorating presses.

It will pay you to get in touch with Hoe.



R. HOE & CO., INC.

910 East 138th Street, New York 54, N.Y.

Sales Offices: BOSTON • NEW YORK • CHICAGO • DALLAS • MIAMI • SAN FRANCISCO

WHEN YOU WANT TO FEEL IMPORTANT ...USE HAMMERMILL COVER

When your selling message deserves an important look and feel, dress it up with Hammermill Cover. Give your catalog, booklet, mailer or menu the attention of good printing, the advantage of extra protection, the impressiveness of high bulk. Whether you use offset (this side) or letterpress (the other side) you get all these advantages when you put your work on Hammermill Cover. Let your fingers and eyes tell you so as you turn this page.

HAMMERMILL COVER

OFFSET OR LETTERPRESS...BOTH PRINT MEMORABLY ON HAMMERMILL COVER

When a prospect gets his hands on a Hammermill-Covered job, he remembers it—and its message. For offset work, Hammermill's exclusive Neutracel® pulp provides the firm, level surface an important job needs. For letterpress, these resilient fibers take a printing impression that makes the best selling impression.

This insert printed by offset on the 4-color side, and by letterpress on this, the 2-color side. Paper is Hammermill Cover, substance 65, Radiant White, Antique finish. Offset side printed 8-up on a 25 x 38, 2-color press. Sheet size 25½ x 38. Letterpress side printed on a 28 x 41, single-color press.

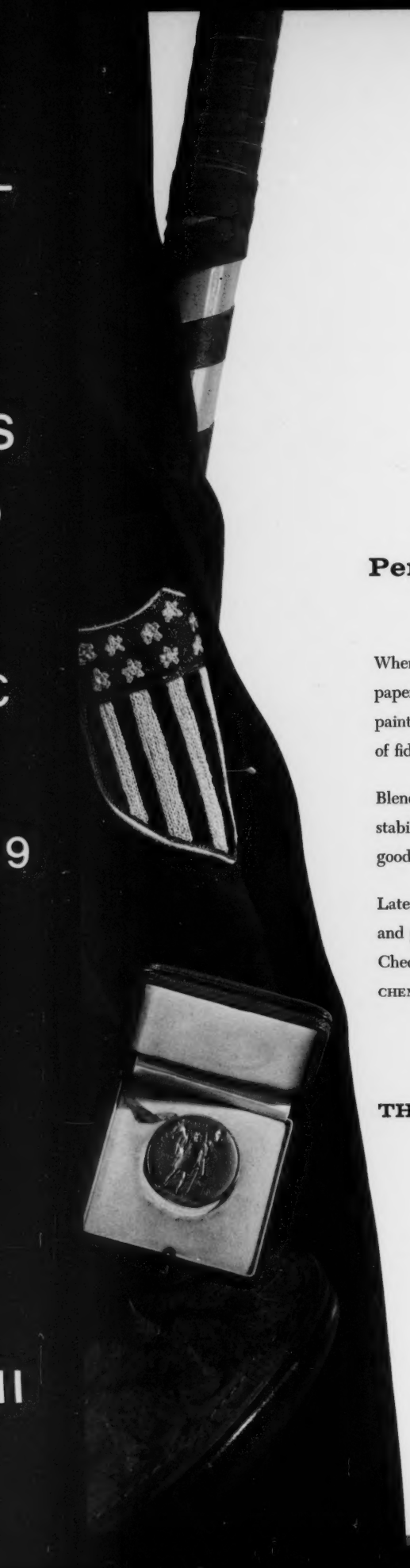
Your Hammermill Agent offers you fast, prompt service with Radiant White and the nine beautiful, rich, fade-resistant colors.

Hammermill Paper Company, Erie, Pennsylvania.

A legend comes to life on latex coated paper

Jim Thorpe needed no fictional embroidery to add luster to his legendary accomplishments. His historic sweep of both decathlon and pentathlon in the 1912 Olympics stamped him as an athletic marvel. After twenty years in football, he was recognized as the greatest player of the century. He was good enough at baseball to win a contract from the New York Giants. Whatever the game, you could depend on Thorpe to deliver. Latex coated papers, too, deliver standout performances every time. For reasons why, turn the page.

DOW



LATEX COATED

Performance counts . . . in sports and in printing

When quality is the watchword, more and more jobs are being put on latex coated papers. The outstanding features of latex coatings are demonstrated in the Jim Thorpe painting and the photography on the front of this insert. Note the high degree of fidelity, the sharp detail and the range of brilliant and subtle tones.

Blended with other coating materials, Dow Latex provides excellent dimensional stability and fracture-free folding. It also provides closely controlled ink receptivity and good resistance to water.

Latex coatings are now available on a wide selection of quality papers in both dull and gloss grades, for both letterpress and offset. Why not test its performance yourself? Check with your paper supplier or write to us for specific information. THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Department 2327.

This four color 150 line screen reproduction is printed on 100 lb. Offset Enamel.
Olympic Medal and Blazer courtesy Ralph C. Craig.

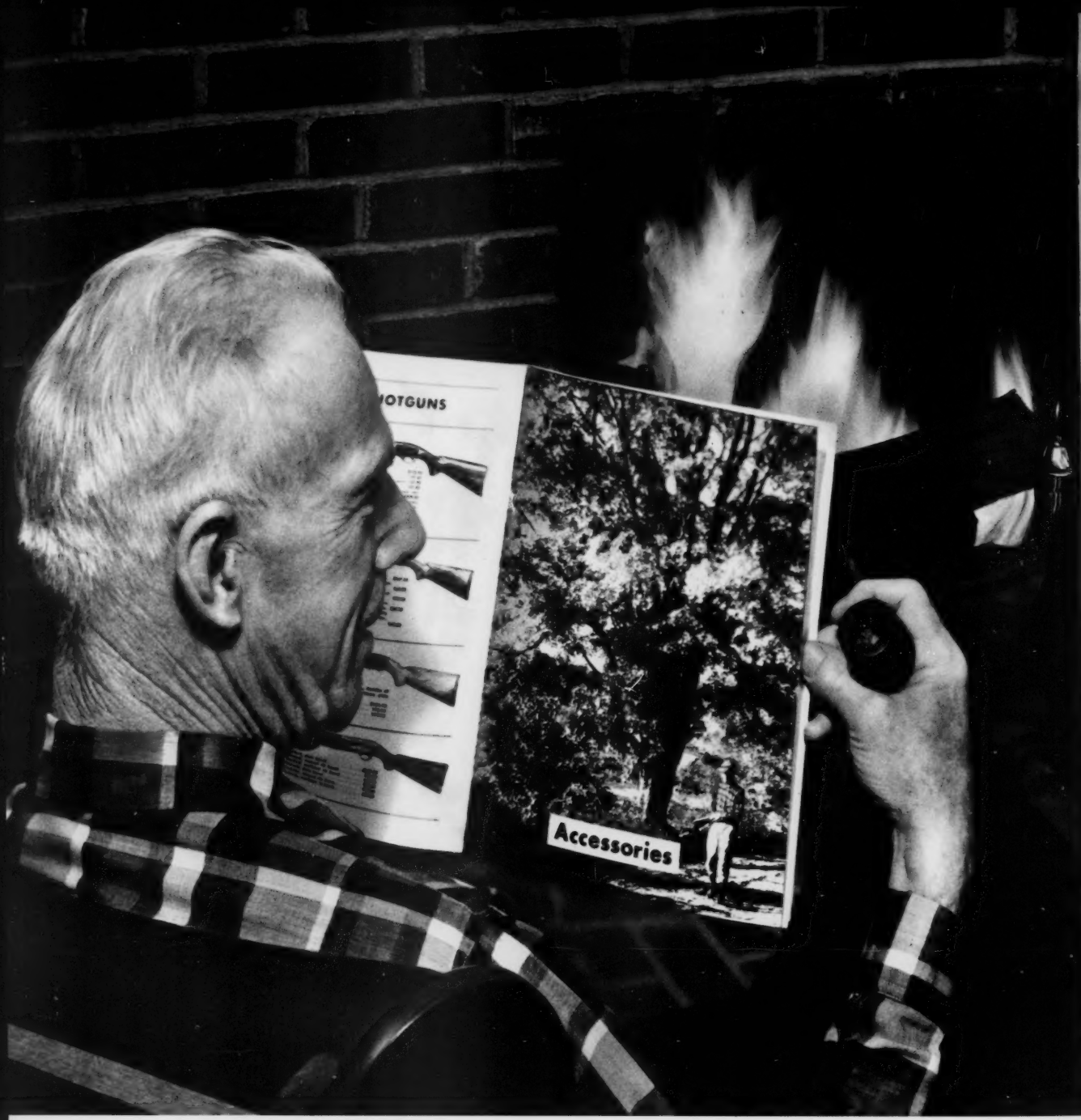
DOW

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

REPRODUCED IN 4 COLORS BY OFFSET-LITHOGRAPHY ON INTERNATIONAL TI-OPAKE. VELLUM FINISH. BASIS—25 X 38—80 LB.—500. PRINTED 18 UP AT 4000 IPH.

Doesn't this make your trigger finger start to tingle?

This striking reproduction of a crisp fall hunting scene is printed on International Ti-Opake, one of America's new *first family of fine papers* by International Paper. →



Your good printing—on our good International Papers—can introduce millions to the outdoor life

NEED OPACITY in a *lightweight* sheet? Economical International Ti-Opake fills the bill.

See how pictures practically pop right off the page? That's Ti-Opake's clean white surface for you. And there's no feathering or offsetting. You can count on beautiful results like this, in flashing full color or dramatic black and white.

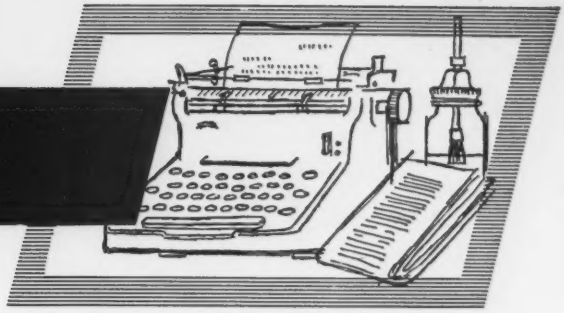
International Ti-Opake is one of the most *versatile* papers we make. It's equally suitable for offset-lithography, letterpress, silkscreen, or sheet-fed gravure.

You'll find that the fast-drying properties of International Ti-Opake make it ideal for financial and real estate prospectuses and other rush jobs. Ti-Opake is also widely used for brochures, stuffers, greeting cards, price lists, booklets, inserts, annual reports, and announcements.

Ask your paper merchant today about the new 8½ x 11 *ream-sealed* packages. They are made to order for small offset-duplicating presses and come in convenient pull-tape junior cartons. International Ti-Opake is also available in all standard book sizes.

Fine Paper Division **INTERNATIONAL PAPER** New York 17, N. Y.

EDITORIALS



Well, Was It Worth It?

HOW do you measure the success of a graphic arts exposition? If you talk to the exhibitors during the heat and and rush of setting up an exhibit, you get one answer, usually pessimistic. If you talk to them a week later, when the long hours are over and the orders are in the till, you may get a different—much more cheerful—answer. And if you talk to a fair sampling of visitors to the exposition, many of whom have traveled thousands of miles to see the equipment on display, you may get a wide variety of answers.

Taking all things into consideration, ML can only conclude that the Seventh Educational Graphic Arts Exposition, which played to a swarming crowd of some 100,000 at New York's Coliseum, was a stunning success.

To be sure, there are drawbacks to any such undertaking:

1. Tremendous cost of designing, creating, shipping and installing an exhibit, particularly if it contains precision equipment.

2. The hundreds of man-hours and thousands of dollars in sales and executive salaries diverted to man the exhibit booths.

3. The sheer physical effort and nervous strain of conducting the show.

These are all vital factors, to the large companies, who must earmark key executives and a big share of their sales forces to handle the show, and equally to the smaller firms, who often must pack up the whole office and head for the show.

It would seem that the smaller firms have more to gain from such a show, particularly those that do not enjoy the advantage of a national selling force, and regular advertising schedules.

But there are several benefits that accrue to any exhibitor, large or small, in a graphic arts exposition of this type:

1. It gives the suppliers a chance to present their wares to the heart of the graphic arts industry, letterpress and offset, large shops and small, in one place and for a full week.

2. It acts as a spur to the supply firms to make real improvements in their equipment and to design new units to make the work of the printer more productive, faster and less expensive. (Mere repainting and refurbishing aren't enough; the man who spends his money and his time to get to such a show wants to see something more than the 1958 model with a 1959 paint job!)

3. It gives impetus to all exhibitors to try to match the improvements in equipment and design presented by competing firms.

In Europe, hardly a year goes by that some country doesn't sponsor a graphic arts show. Such a schedule would hardly seem warranted in America, where far-flung sales forces, thoughtfully prepared advertising and regional forums and technical pre-

(*Continued on Page* 128)

Quote of the Month

'I see continuous-tone printing by the lithographic process. Many attempts have been made over the years to accomplish this. Collotype comes very, very close and is widely used, especially in the field of art reproduction; but attempts to apply the conventional lithographic process to this kind of work have not succeeded as yet . . . this isn't just a vision. At our laboratory we have made and run successful experimental full-color plates. However, the techniques require such extremely critical handling as to make them impractical, at this time, in normal plant operation.'—Charles Shapiro, LTF, in talk at Craftsmen convention.

100,000 AT EXPOSITION

MORE than 100,000 members of the graphic arts industry pushed through the Coliseum, crawled under presses and composing machines, elbowed through crowds of curious onlookers and assaulted everyone from the greenest sales representative to company and corporation presidents with a myriad of questions last month.

The scene, of course, was the Seventh Educational Graphic Arts Exposition, Sept. 6-12, first such show of its kind since the 1950 Exposition in Chicago.

At week's end, it was generally agreed by exhibitors and visitors (some

from thousands of miles away) that the show was the greatest of its kind in history.

Within 10 minutes after President Eisenhower's telegram of greeting to all those attending the exposition was read to official visitors at the opening of the show on Sunday, the first wave of printers and lithographers, many with wives and children, stormed through the place. And the pace didn't quiet down until late Saturday, when weary booth personnel watched the clock approach 10 p.m. and the close of the exhibit.

The Exposition was a delight to all the senses. There was the stimulating sight of hundreds of exhibits on all sorts of equipment and techniques for letterpress and lithography . . . there was a cacophony of sounds—presses, binders, cutters, illustrated talks, intermingled with the probing questions of visitors and the enthusiastic replies of salesmen at all sides.

Then there was the smell of printers ink, and of all the chemicals used in the litho process, intermingled in a pungent bouquet, and the smooth feel of new films, redesigned composing machines and other equipment.

It would be impossible to give booth by booth coverage of the show in these pages. Readers are referred to the comprehensive reports in the September issue, and to forthcoming accounts in the New Equipment sections of subsequent issues.

Among the exhibits attracting considerable attention, and not covered in the pre-convention article in ML, were these:

Di-Noc Chemical Arts, Inc.—Literature on new Dinolith Supra Thin Ortho film, just .002″ thick. Said to save on film and processing time for laterally reversed positives and for dependable definition on print-throughs. Material has a polyester base.

Harris-Intertype — Exhibit of four offset presses, from 14 x 20″ to 23 x 29″ and a demonstration of the "Harris Wrap-Around" rotary letterpress, using du Pont's "Dycril" plate and other plates, made of zinc and chrome-plated copper.

ATF — Printing of souvenir place mats on an ATF Green Hornet web-offset press and much other specimen material; demonstration of dry-offset; exhibit of Chief 126, Chief 226, Solna 24″ perfector and many other units. Main attraction was a completely equipped model offset plant, featuring an ATF Chief 15, an 11 x 15″ sheet-fed offset press.

Miehle-Goss-Dexter — First showing of a wide variety of new equipment, as described in the September ML.

Demonstrations of *Davidson* offset presses, doing production jobs, one in process color.

Continuous description and live demonstration at the *A. B. Dick* booth of an aluminum transfer plate, produced in two minutes.

A newly designed *Kenro* small offset camera with xerographic and other attachments. Other interesting photographic equipment was on view at the *Chemco* and *Robertson* exhibits.

R. Hoe & Co., and *3M* had almost universal appeal. Hoe showed letterpress, web-offset, rotogravure and metal decorating presses, while 3M displayed presensitized offset plates, 3M Makeready, dampener sleeves and other material.

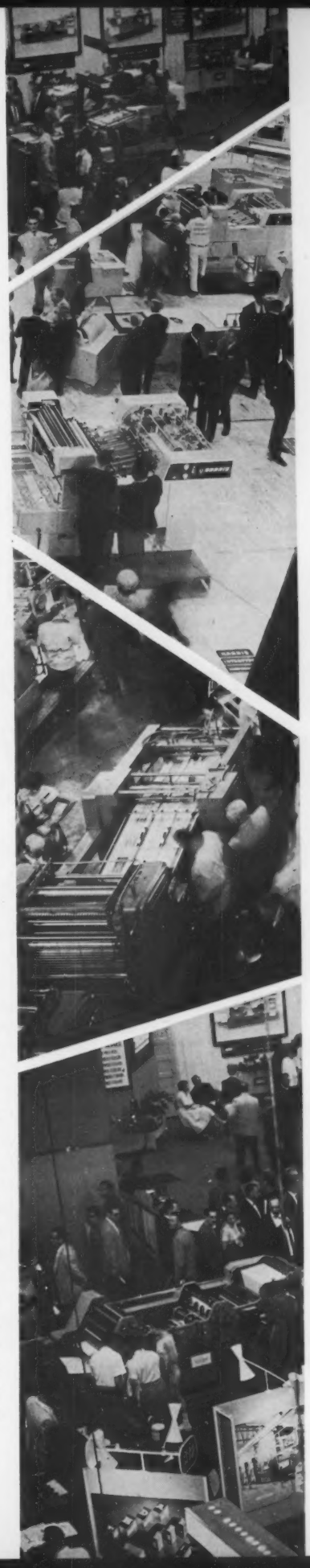
Macbeth Arc Lamp Co. and *NuArc* showed radically new lighting equipment for offset.

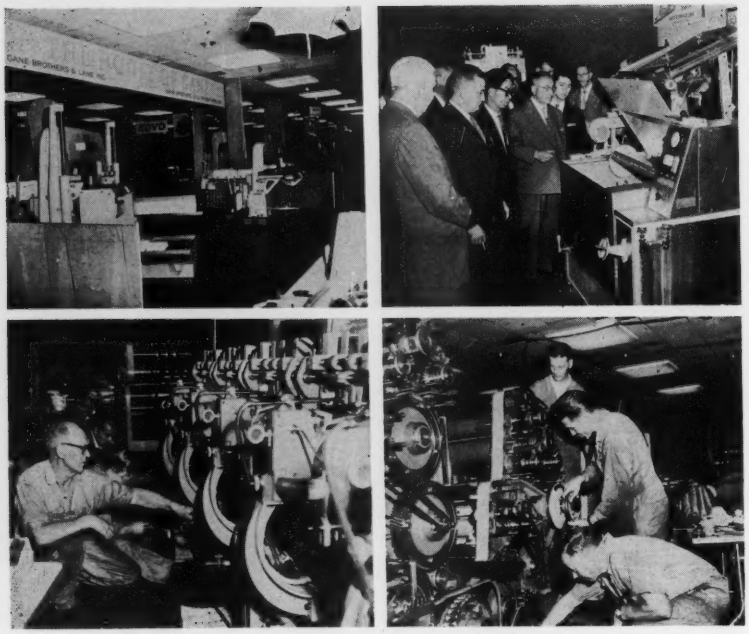
Even the ALA was represented, with a lithographer's daughter posing prettily as "Miss Amalgamated." The New York papers made much of the fact that a union took part in an essentially management show.

Educational booths were manned by *PIA, NALC, LTF, New York Employing Printers, R & E Council,* the *Education Council* and several other groups, disseminating information on their programs and activities.

All in all, the visitors whom ML interviewed were quite impressed with the scope of the lithographic products displayed at the Coliseum. While many said that they had been familiar with some few of the developments, ML's staff could not locate one who was aware of all the new offset developments revealed during the Exposition.

The Exposition board of directors seemed justified in their claim that the past decade has produced more innovations in printing and lithography equipment than the past 500 years.★





Some typical scenes at Spectra.

Technical Panels, Variety of Equipment Featured at Spectra

SHARING the spotlight last month with the Graphic Arts Exposition at the Coliseum was the Spectra '59 exhibit at the New York Trade Show Building, Sept. 6-12.

There was an international flavor to the show, with the following pieces of equipment debuting: the Hell C-202 Colorgraph Electronic Color Scanner, the automatic film processing machine of Oscar Fisher Co., Inc., the Compos-O-Line Sequential Card Camera of Lithoid, Inc., the Buhler Swissplex newspaper press, the Mettenheim Gravure Step-and-Repeat Printing Down Machine and the Gravure-test Cylinder Proof Press.

Attracting as much attention as the exhibits were four technical forums and 10 lecture demonstrations. The latter were arranged so that a full explanation of a particular piece of equipment could be given in a private room fully, and without interruption.

More than 30,000 persons attended Spectra, it is estimated. Exhibitors reported very encouraging business during the week.

Following are reports of two of the four technical panels. Reports on the other two will be forthcoming in a future issue.

COLOR THEORY—Lloyd E. Varden, assistant professor, School of Engineering, Columbia University, New York, moderated a panel discussion of the theoretical considerations of color reproduction. The panel was the first half of an all-day color forum and dealt with the technical aspects of color reproduction systems.

Those on the panel included Vincent Hall, Time, Inc.; Hans Neugebauer, Haloid Xerox, Inc.; Phillip E. Tobias, president, TAGA; V. Tulagin, 3M Research Center; and J.A.C. Yule, Eastman Kodak Co.

Discussing the limitations of masking, which was described by Mr. Varden as "no more than a hiding process," Mr. Yule said that "a printer cannot reproduce a color that is outside the gamut of printing inks, no matter what masking method is used." Very often, he continued, a masking method is tailored for a certain process and each color has its own method. The perfection of a masking method that will reproduce all colors well will eliminate one limitation, he said.

The panel responded to questions from the floor for the bulk of their comments. Most questions dealt with the problems of reproducing exactly the many different colors visible to the eye. It was brought out that there are more than three million colors that can be distinguished by the naked eye and only a fraction of them can be reproduced exactly with the inks and platemaking systems available today.

PRINTER - BUYER RELATIONSHIP — The problems in the relationship of the buyer of printing and the printing producer were the point of discussion at another panel.

The panel was composed of leading buyers and printers. They were Louis Greenwood, Young and Rubicam, moderator; Oscar Scheiff, Wickersham Press; Chester Thompson, Thompson-Leeds Co.; Arthur Cady, Young & Rubicam; Arthur Hawkins, consulting designer and artist; John Lutter, General Foods Corp.; Nelson Thoren, Davis Delaney; Arnold Copeland, Visual Marketing, Inc.; Daniel Ford, Peter F. Mallon Co. and Ronald Hubbard, Eastern Colortype Corp.

While a number of points were discussed by the members of the panel, the main item which seemed to concern all was the lack of good communications between the buyers, art directors, artists and account directors and the printing producers, salesmen, production managers and executives. The result is much time and money lost by each side in attempting to find exactly what the other is talking about.

Several members of the panel expressed concern over the fact that all too often much efficiency and patience are lost because buyers don't understand and appreciate the problems and limitations of printing production and that printers fail to recognize the problems in the creative departments which initiate printing purchases.★

PIA members are asked:

Could You Use a $300,000-a-year Assistant?

"COULD You Use a $300,000-A-Year Assistant?" is the provocative title of a booklet released last month at the 73rd annual convention of Printing Industry of America, Inc. The booklet was distributed at the Waldorf-Astoria Hotel in New York, where PIA met Sept. 7-11 in conjunction with the Graphic Arts Exposition at the nearby Coliseum.

The new booklet declares that PIA is the $300,000-a-year assistant, that figure representing the total investment of some 6,000 member companies each year in the association. The 24-page booklet goes on to describe the various management services offered by the association and tells readers how to do a "check-up" of their business, to analyze sales and profits.

Some highlights of the convention were these:

• Election of Carl F. McArdle, president of McArdle Printing Co., Washington, D. C. to succeed Kurt E. Volk

McArdle

as president of PIA. Other officers include Francis N. Ehrenberg, Blanchard Press, Inc., New York, vice president; Frank F. Pfeiffer, Reynolds & Reynolds Co. Dayton, O., secretary (re-elected); and Harold W. Braun, Fetter Printing Co., Louisville, treasurer.

• The convention had registration of more than 1,000, largest in the history of the organization. Theme was "How Will Change Affect Your Business?" and "Management Equips for Tomorrow's Needs."

• Among leading speakers were J. Homer Winkler (see page 59) and Mr. Pfeiffer (see page 61).

• Self-Advertising awards were given at a breakfast sponsored by the Miller Printing Machinery Co. (See page 65 for complete list and photos.)

• Man-of-the-Year award went to Harold D. Ross, Kable Printing Co., Mount Morris, Ill.

• Closing session was devoted to manpower and was held at the New York School of Printing. It was emphasized at this session that "the industry cannot improve its economic picture until it develops a realistic manpower recruitment and training program."

• Conventioneers were guests of NYEPA at a Knickerbocker Ball, featuring Gay Nineties and Roaring Twenties motifs.

• Slogan for 1960 is "Profit Improvement Activities," with initials appropriately spelling PIA. The new service "Managing Your Business" will be offered members to help them im-

(*Continued on Page* 123)

Craftsmen Issue 'Printing Progress' To Mark Anniversary

THE 50th anniversary of Craftsmenship was celebrated last month in New York. Actually, the convention was only the 40th for the International Association of Printing House Craftsmen, but 1959 marks the 50th year of the organization.

One of the highlights of the convention at the Statler Hilton Hotel in New York, Sept. 5-9, was the distribution of *Printing Progress, A Mid-Century Report.* The book, containing 20 chapters and 560 pages, printed by sections in many different states and Canada, outlines the progress made in almost every phase of printing in the past 50 years. The volume, the idea of Howard N. King, the Maple Press Co., York, Pa., was issued to coincide with the Graphic Arts Exposition. The work of 48 writers is incorporated in the

(*Continued from Page* 123)

New officers and board members of Craftsmen: Front (l.-r.) Mark H. Carothers, Dallas, treasurer; Thomas L. Cooper, Atlanta, president; Robert M. Edgar, Pittsburgh, vice president. **Rear:** governors Michael Imperial, St. Louis; Harry C. Link, Philadelphia; Harry M. Faunce, Boston; Harold E. Sanger, Chicago; Roy Gurney, Toronto and Robert M. Ritterband, Santa Monica.

New Offset Developments

By *Charles Shapiro*

Educational Director, Lithographic Technical Foundation

LET'S take a trip through the offset process and, beginning with the gallery, take a look at some of the new things that are being applied in our industry.

Contact screens are, of course, not new, but their wide acceptance is comparatively recent. Part of this is due to the fact that in recent years there has been made available to the industry the gray contact screen. Up to this time only the magenta contact screen was available and while it did and still does a remarkable job, especially by comparison to the glass screen, its color limited its usefulness, especially where direct halftone color-separations were desired. The gray contact screens maintain practically all of the advantages of the magenta contact screen, and can be used where the direct method is desirable.

In this same general area of work, Autoscreen film has come into being quite recently and, while still used to only a limited degree, actually offers some very interesting possibilities. While, by and large, it is considered a technique for the small lettershop printer who does not want to invest in a camera equipped for either glass or contact screen work, LTF has shown that it can do some things much better than the older, more established techniques.

THERE is another important new development in the area of process photography: the greatly increased use of masking as a photographic color-correction technique. Here again, we have something that is old. Individual craftsmen have done this for years. Eastman Kodak introduced general information on masking more than 20 years ago, but its wide use required two things:

1. Better informed craftsmen and,
2. A new concept of the entire process of color reproduction.

ELECTRONIC scanning to replace photographic color-separation is not new. Its application to the industry is still comparatively small, but there are applications where it is used very successfully and increasingly.

BY FAR the most spectacular advances in the last 10 years have taken place in the platemaking operation. We at LTF believe that the developments in this area of work have been mainly responsible for lithography growing up as a graphic arts process rather than remaining a specialized technique. As recently as 10 years ago, the industry was actually fighting for its life. All the troubles were blamed on the need for water in the process. The lithographer was tempted by the possibility of a dry process. Hence all the noise about dry-lithography — a misnomer if there ever was one. And, on the other hand, the letterpress printer had visions of applying the offset principle with its rotary type of press operation to give him what was called dry-offset.

I want to express my strictly personal opinion on this and not compromise the Foundation . . . The thing that both groups failed to recognize is that mutations don't necessarily mean the advantages of two different things are being wedded. As a matter of fact, usually, at least from a technical point of view, the disadvantages predominate, and of course this is what happened here. The letterpress printer inherited all the disadvantages of having his paper pass through the solid nip between the blanket cylinder and the impression cylinder, while the lithographer, getting rid of his water, took to his bosom all the inherent

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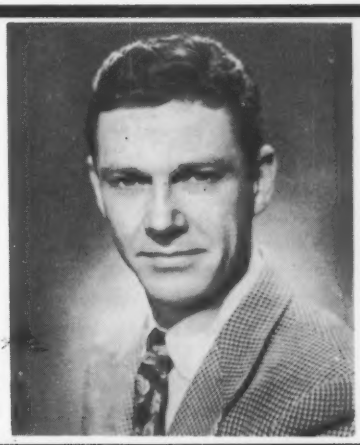
From a talk presented at the 40th annual convention, International Association of Printing House Craftsmen, Sept. 7, Statler-Hilton Hotel, N. Y.

Tips for the Pressroom

By *Jack E. Spencer*
Superintendent, Western Printing and Lithographing Co., Poughkeepsie, N. Y.



MOST of the improvements made in the offset pressroom have been accomplished rather gradually over a period of years. As the demand for quality and increased color has increased, presses have been built with greater and greater precision, and with much more rigidity. They have been built to handle larger size sheets up to six colors and more at a time.

One major development in the offset field in recent years has been the introduction of web-offset. In addition to refinements in press equipment, there have been other advancements in expendables and supplies.

We now have a wide choice of plate-making processes, depending on the need, ranging from two-sided-presensitized to steel-backed copper.

Plate and press chemicals are far more reliable than ever before, permitting more predictability on the ultimate performance of a plate under printing conditions.

Paper stocks have been considerably improved. We now have a much wider selection of papers to print on, especially among the "coated" sheets. This better enables us to tailor the sheet for the job it has to do for the customer, and for the equipment we will use for printing. We have a much wider choice of rubber rollers for inking systems, and a good selection is available to give longer life, more compatibility with inks, and good dimensional stability in the press. Rubber blankets that are available to us now can be selected from a wide variety. Generally the blankets we get today resist solvents better, and have a better "release" characteristic on coated papers than ever before. We can get more snap out of our inks now, and there have been improvements in the properties of resisting emulsification and stripping.

IT IS quite possible that on sheet-fed equipment there will be no great increase in size or speed in the near future on lithographic presses. Certainly there will be a never-ending effort to increase productivity of the presses; but, if the effort is concentrated on getting better quality, a greater reduction in lost time, and in shorter makereadies, there will be a greater benefit derived in the industry.

ONE important factor in producing quality work is the necessity of being able to properly transfer the sheet from one cylinder to the next. This is particularly true in the case of multi-color printing.

Recent presses have been built with cam-operated grippers. Spring-loaded grippers were previously used. Gripper pads have been designed with a roughened surface which has a greatly improved holding ability. This gives better register, which means the customer gets a better job.

IN THE PAST, high pressure air has been used to hold the sheet against the transfer cylinder. It is now possible to equip an offset press with a low pressure, high volume, blower which will accomplish the same result at a lower cost. Such a blower is much less expensive to install and run than a high pressure air pump and it is quite efficient.

A SIDE-GUIDE register control detector is now available which will signal with a light, a bell, or a horn, anytime the sheet going into the press does not side-guide properly. This can be a big help in decreasing spoilage.

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From a talk presented at the 40th annual convention, International Association of Printing House Craftsmen, Sept. 8, Statler-Hilton Hotel, N. Y.

. . . Shapiro

disadvantages of a relief process dependent upon differentiated pressures and limited by the fineness of the image that could be engraved in the plate, or which could be inked cleanly, or could be electrotyped faithfully. The letterpress printer was acquiring a wrap-around plate, while the lithographer was still clamoring for a way to handle small plate segments.

You should know, of course, that this process, which technically is best described as relief offset, or offset relief, is not new. It has been used for many years in the running of pigments which bleed in water and are required in some safety paper applications.

WHILE LITHOGRAPHY, over the years, has always been considered a fine art reproduction technique and, of course, the only practical technique for some specialized operations, it could not grow unless it became practical for consistent results in that broad area we call job and commercial printing, not merely as a competitive thing, but just as much to meet the needs of an ever-expanding economy. These 10 years have seen a change whereby instead of wondering how a particular plate would perform on the press, we now wonder about which of a wide variety of plates we should use for a particular job.

There is no question about what the results are going to be. The lithographic process can and does perform. Where it fails, it is most often due to management not keeping abreast of what's new, or craftsmen not giving sufficient credit to standardized techniques. The shame of it is that the standardized techniques are not set up by outsiders, but are and should be set up within a plant's own operation and by its own men. And, in passing, it should be noted that these standardized procedures are easily set up. It doesn't require a graduate engineer, just a willing and capable craftsman who takes pride in his accomplishments and who receives continuous encouragement from the boss.

AN OUTSTANDING development of the past 10 years is the use of presensitized plates in the large sizes. At the moment, they are available up to 58″ and I am certain they will be available in all sizes in the very near future. Not only are these plates less costly to make, but the quality of their image is superior because there is virtually no grain structure in the plate to distort fine detail in the image.

While presensitized plates were originally developed to meet the need of the small-size, short-run operation, proper handling by a good craftsman produces consistent results in excess of 60,000 impressions. We have increasingly more reports of up to 100,000 runs.

Speaking from the technical point of view, the greatest contribution of this particular approach to platemaking is that the pressman now knows that grain is not necessary to carry water. As a matter of fact, a presensitized plate will simply not print properly if water isn't held to an absolute minimum. While this does not eliminate water from the process, it brings us to a point where so little water is used that many of the troubles which water did aggravate, and even cause, simply eliminated themselves.

BUT EVEN prior to the presensitized plate, we had the development of bimetal plates. Originally, these were conceived as giving us more faithful images on the plate, since bimetal plates have no grain. They also gave us a variety of metallic surfaces, each best suited for the job it was to perform. By this I mean a pair of metals in the same plate, one of which is inherently grease receptive and water repellent, and one which is water receptive and grease repellent. With these plates the need for a delicate chemical formation of a water-repellent, non-printing area is considerably reduced — actually, virtually eliminated.

The unique aspect of the bimetal plates is that the same treatment which makes a grease receptive metal more grease receptive, makes the water receptive metal more water receptive. Here, also, the radical departure was a demonstration to the pressmen in the industry that a smooth metal plate could carry enough moisture to keep the non-printing areas clean. With these plates, of course, length of run climbed into the seven-figures. But, as I see it, the principal contribution of the bimetal plate was to break down the dependence on grain. As a matter of fact, LTF's grainless deep-etch plate, now sold by Printing Developments, Inc., as the Lithengrave plate, actually did this because it demonstrated that a smooth plate could carry an image and a non-image area. Now, not everybody is using bimetal or smooth plates, but their development resulted in finer grains on aluminum. Some of the very finest color work produced in the graphic arts is now done on conventional, deep-etch plates on grained aluminum.

All this adds up to what I said a few moments ago. The lithographer who keeps up with the times does not worry about the quality of a plate. His only problem is to pick one of any number of plates best suited for a particular job at hand.

EVEN the much maligned so-called albumin plate, now generally referred to as a surface plate because albumin is only one of a number of coating materials available to us, is being used on very fine work where the runs stay below 300,000. It is even being used on web presses. The bimetal plates are generally used for runs of over half a million, or where a steel or iron base plate is desired for harsh web operation. But, let me cite just one exception to this. A conventional deep-etch aluminum plate with a copperized image—a now commonly used technique developed by LTF a few years ago — went on the press last September and on November 10 had already run nearly 2½ million impressions and was still going. And conventional deep-etch plates on zinc, where copperizing can not be accomplished, are running well over 250,000

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. . . Spencer

PRESSES are available today with a feeder which will feed continuously from a piled load and eliminate the need for stopping the press when changing from one load to the next. The paper is piled on a thin steel pallet which rests on the mill skid. After appromixately 90 percent of the pile has been fed off, special arms swing in to grip the sides of the steel pallet, and an auxiliary hoist takes over from the main hoist, thereby continuing to raise the pile. The main hoist motor then is used to lower the mill skid while the pile on the pallet continues to feed.

A new load is put into the feeder, having been previously repiled onto a steel pallet, and the pile is raised until the top sheet is just under the steel pallet supporting the expiring pile. The main pile hoist motor takes over again, and the steel pallet is extracted on a cushion of air, depositing the remaining sheets from the expiring pile onto the top of the new pile.

This type of device is still somewhat experimental, although it is being used with considerable success in box board plants. It has been used successfully on an experimental basis on medium weight papers; it has not worked with lighter weight papers. There is a question as to whether a device of this type is as necessary with lighter papers because loads are changed less frequently.

ANOTHER APPROACH to continuous feeding involves piling the paper on a special skid with slots in it to permit inserting bars. After about 80 percent of the load has been used, the steel bars are inserted in the slots on the pile board, and these eight bars support the pile while a new load is put in the feeder. The bars are extracted manually when the new pile has been brought into position. Variations of both these systems are available for different size presses.

There is one major disadvantage to all the currently available systems. That is the need to repile every load before being able to continuous feed. If we are to get the fullest advantage of continuous feeding, we are hopeful that the equipment manufacturers who have brought us this far will be able to solve the repiling and special pallet problem.

A DOUBLE DELIVERY for the press, although it is not new, will probably become more popular if the continuous feed unit is successful. There is more value to a continuous feed unit if you don't have to shut down for the delivery unit.

A unit is available for feeding paper from a roll, sheeting it, then feeding it right to the press. There is a definite cost advantage if this unit can be used because paper is much less expensive when purchased in rolls than when purchased in sheets. The one disadvantage to this application of roll stock and sheeting is that the grain of the paper will be the short way of the sheet, or around the cylinder, instead of across the cylinder. This can cause considerable difficulty in color register when running multi-color work. However, for certain kinds of lithography, this roll-fed unit would certainly have some distinct advantages.

CONSIDERABLE work is being done towards pre-registering plates before going to the pressroom, and some success is reported on smaller size machines. New systems are being tested now for application to larger presses.

PROBABLY the greatest development effort recently in the lithographic pressroom has been on the dampening phase. One improvement to the conventional ductor-type dampening system has been the use of paper covering for the dampening form roller rather than the cloth, or molleton, previously used. A parchment-like paper is available in rolls about three inches wide. This paper is spiral wound on the rubber form roller. For us it has worked as well, or better, than the cloth dampening. With cloth covered form rollers, it was necessary to use two; with the paper covered rollers we are using only one form roller on most cylinders.

THERE are several completely revolutionary approaches under development for dampening the offset plate. Two of these dampening processes are commercially available today: the Dahlgren and the Mullen systems. Neither system uses the conventional ductor roller to transfer water.

The Mullen system consists of a water pan roller which runs about .004 of an inch from the press plate. As the press rotates, the water is transferred from the dampening roller to the plate, and the plate is actually saturated with water. Then, as the plate continues to rotate, it moves under an air knife which strips off the excess water. Directly below the air knife slot is a wider vacuum slot that sucks in the excess water, which is then recirculated through filters and returned to the water fountain. This knife of air dries the printing areas.

In Poughkeepsie we have two of these Mullen dampening units — one each on two cylinders of a two-color 76″ press. We have been running very successfully with them for about a year and a half. We are now in the process of trying to use the Mullen air knife principle without the vacuum and recirculating unit. The water is blown off onto a splash pan which allows the water to drain directly back to the fountain. Development work on this system is continuing to minimize the need for an elaborate pumping and filtering system.

THE DAHLGREN dampening system is a completely different approach. With this unit, the plate is dampened

(*Continued on Page* 133)

Reproduction to Accuracy

By Frank P. Smith

I HAVE, I am afraid, made only two or three truly useful inventions but I earnestly believe that this "vernier phase pattern" * idea could be extremely valuable. It is a completely practical method which allows one to check, without even a rule, whether a reproduction is sufficiently accurately to size within the required tolerance and just precisely what the actual size is. It could not be simpler to use, because one simply lays a pattern of lines in a strip beside the copy when photographing it and lays a similar strip on the negative, positive, printing plate, proof or whatever one wishes to check.

Then one counts plain light and dark bands about a quarter of an inch apart, from the result of which one can, for instance, say "that job is .01% (one part in ten thousand) larger or smaller than the required size"! The method is completely free of all patent or other charges and if you care to use it I shall be delighted and will provide any help that I can if you write to me about it.

"N.P.L." Measuring Method

Inventions rarely come "out of the blue" and this one was triggered by other ideas in which I was interested, particularly the clever work of the Light Division of the British National Physical Laboratory at Teddington, Surrey. Dr. L. A. Sayce, who is in charge of the division, has a genius for leading and coordinating the work of his talented team of physicists. In the past few years they have devised means of engraving diffraction gratings of the order of ten thousand and more lines per inch, in lengths as great as 30 inches, and they have developed ways of using them for measuring length with astonishing precision.

No doubt we are all uncomfortably aware of interference phase pattern such as that shown in *Fig. 1*. It is the basis of our difficulties when we try to reproduce halftone illustrations in halftone and is at the root of four-color pattern. In the illustration we have two sets of 34 lines per inch rulings crossing at a small angle and, as we all know, such overprinted rulings form interference phase pattern bands, at right angles to the bisection of the angle between them, which are widest apart when the angular difference is least. The interference bands change from light, through dark, to light again once every time the sets of fine lines are moved through a distance equal to their pitch, namely every thirty-fourth of an inch in this instance. Obviously then, if we were to move a small portion of the line pattern across a long strip of the same pattern, and could use a photo-cell and electronic counter for counting how many of the phase bands passed before it, then if the number were 34 we would know that the piece of line tint had moved through precisely one inch, and so on for any other distances.

Dr. Sayce's team of research workers have applied this principle with their very finely ruled transparent diffraction gratings. They have arranged a small piece about one inch square of, say, ten thousand lines per inch grating, so that it may be moved along against a long strip of similar grating as in our *Fig. 1* example. If the small piece of

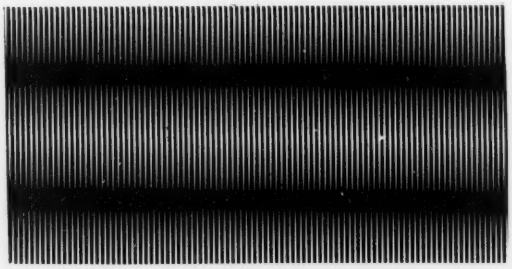

Figure 1

grating passes through one ten thousandth of an inch, one line of interference pattern ** passes upwards or downwards before a photo-cell, and is counted electronically.

Thus, the number of phase pattern bands gives a direct reading, in ten-thousandths of an inch, of precisely how far the small piece of grating has travelled along the strip. But the work has been taken farther than that. The counter registers each phase pattern to the nearest one-quarter of a phase, so that the measurement can be taken to the nearest one-quarter of a ten-thousandth of an inch and because the counter registers whether the bands move up or down,

* Proceedings of the Association of Printing Technologists, London, April 1957.

** Actually the effect is a *diffraction* interference at such fine rulings, but the principle is much the same.

it shows in which *direction* the movements occur — and this accuracy is maintained over a distance greater than two feet!

It is an elegant technique and is now being applied to control in automation where it works uncommonly well. It was this clever work which caused me furiously to think about a way of applying somewhat similar ideas to the problem of maintaining accurate size in graphic reproduction and I finally thought of the following method.

The Vernier Phase Pattern Technique

For the purpose of explaining the method let us take two sets of lines sufficiently coarse to be seen easily (they are 34 and 38 lines per inch respectively) and place them one upon the other, lining them up so that the top set of lines is parallel to the bottom set, as shown in *Fig. 2.* As

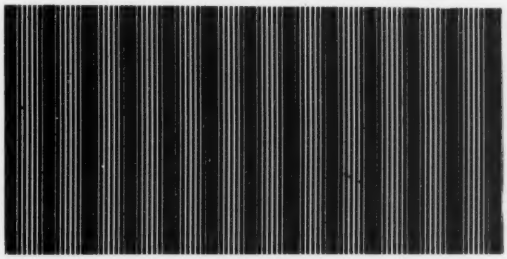

Figure 2

can readily be seen, when the example is examined under a magnifying lens, the lines of one set go in and out of coincidence with the lines of the other and where they are in coincidence (in "phase") one gets a light part of the banding, but where they are adjacent to one another one gets a dark part. Because the two patterns of lines differ by four lines per inch, we have four coincidences per inch and therefore four phase pattern bands.

Now, suppose those two line patterns are placed adjacent to one another as shown in *Fig. 3.* If a duplicate of such

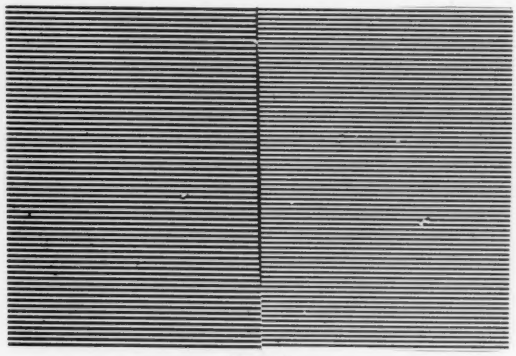

Figure 3

a pattern is reversed upon the first, then we get the same four phase patterns per inch at either side of their division and by suitably moving the position of one upon the other we can line them up as shown in *Fig. 4.* But suppose the duplicate of the "master" pattern is a photograph, at same size, taken from it; we are unlikely to be at absolutely same size and if our copy negative is a fraction small

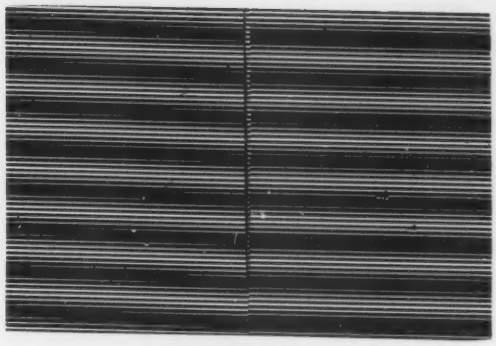

Figure 4

there will be very slightly more than 34 and 38 lines per inch respectively in the photo copy.

Let us, for convenience, suppose that the number of lines is increased to 35 and 39 (it would not be precisely this value but it will serve for the purpose of explanation). Because the photographic copy is laid in the reverse direction on the original master pattern, our 35 lines per inch pattern is laid upon the 38 line portion of the original, differing by three lines per inch and therefore forming a phase pattern of three bands per inch, and our 38 lines per inch pattern lies on the 34 lines side of the original, forming a phase pattern of five bands per inch. So, the number of phase pattern bands on one side will have increased and the number on the other will have decreased. The two adjacent dissimilar sets of phase patterns will themselves go in and out of opposition to one another at every three and five phase pattern bands respectively, which is a very great difference from the accurately opposed series of four per inch of phase pattern (*Fig. 4*) which one gets if the image is at precisely same size—and we should note that we obtained that completely dissimilar phase pattern effect with a size error of only about three percent smaller than exact same size, so we have a very precise method of checking the exact scale of reproduction.

Bands Indicate Size Change

Another useful point is that if we mark the side of the original line pattern which has the fewer number of lines (34 per inch in our example), then if the smaller phase pattern (the greater number of bands) shows on that side when we make our test, it indicates that the job is *small;* if the pattern is largest that side it shows that the job is *large.*

I did not try to produce an example of the above three and five bands coincidence because the technique is so sensitive that it would be very difficult indeed to get the exact coincidence. I though it would be better to take an actual photograph of a line job with the master line patterns beside it and to show how one works out the "error" of size. I shot the job at just under same size and the resulting phase pattern portion is shown at *Fig. 5.* You will observe that one coincidence is arrowed at "1" and the next above it at "2". There should be another coincidence at the arrow marked "3" and the reason why there is not is because the camera is *very* slightly out of square. In defense of myself—after all my writing about how to get

Figure 5

a camera square!—may I say that I deliberately used a small spare camera, expecting that kind of result, and that our other cameras are well and truly square.

Perhaps the best way of correlating the number of phase bands against the scale of the job is to prepare a graph such as *Fig. 6* in which the percentage of error on the vertical axis is plotted against the number of phase bands which correspond with one more than that number. You will see, for example, that there are 15 phase bands between

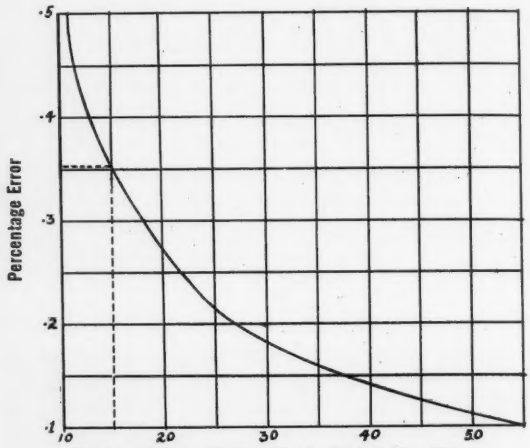

Figure 6

arrows "1" and "2" corresponding with 16 opposite to them, and if you look up the line indicating 15 bands (dotted in the diagram) you will see that the error amounts to a fraction more than .35% which implies that a same size job which should measure 10 inches would in fact measure .035″ less, namely 9.965″.

One calculates the graph in the following manner: If the job were .5 percent small its scale would be 99.5 percent and, instead of 34 and 38 lines per inch in the line pattern, there would be 34 and 38 times $\frac{100}{99.5} = 34.1708534$ and 38.1909538 lines per inch. But the photo-copy of the line pattern is laid in reverse upon the master pattern, so that the former number of lines lies on the 38 line side of the original and the latter lies on the 34 line side; so the difference in the number of lines on either side is 38 minus $34.1708534 = 3.8291466$, and 38.1909538 minus $38 = 4.1909538$. Thus there will be less than four phase bands per inch on one side and more than four on the other. I then write the two amounts down one over the other, as a vulgar fraction:

$\frac{4.1909538}{3.8291466}$ and calculate the decimal value of the fraction $(= 1.0944877)$ on the calculating machine, and multiply by successive numbers until I reach a value which, if divided by one greater than the multiplying number, would give the nearest to unity. For instance, in this case, if multiplied by 10 and divided by 11 we get

$$\frac{4.1909538}{3.8291466} (= 1.0944877) \times \frac{10}{11} = .99498882$$

and

$$1.0944877 \times \frac{11}{12} = 1.0032804$$

of which the latter is nearest to unity, so the phase bands

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How's Your Research Budget?

By *J. Homer Winkler*
Technical Adviser, Battelle Memorial Institute
Columbus, O.

THE Seventh Educational Graphic Arts Exposition was truly great and impressive. It presented visually and in an attractive manner evidence of the remarkable advances made during the past nine years in printing technology. To printing management it pointed up the theme that technological change is occurring — that such change is inevitable—and that it will bring problems as well as opportunities.

Although the 1950 Exposition introduced some dramatic developments and contained hundreds of splendid exhibits, the 1959 show surpassed it in all respects. Every machine, process and material shown in 1950 that was also exhibited this year has been improved in one or more ways. The number of instruments displayed for use in controlling operations was noteworthy and suggests what is ahead in the printing business. Mechanization and automation are the order of the day and will most certainly play paramount roles in future competition.

Those who attended the 1950 Exposition may be particularly conscious of the many machines and materials exhibited this year that did not exist at that time. Several of these are most ingenious in their concept and are illustrative of the amazing technological progress made by the graphic arts since 1950. The Fairchild Scan-A-Sizer and Fairchild Color Scanner, RCA Electro Typesetters, Ruth-O-Matic photo-composing machine, Du Pont Dycril (Photopolymer) plate, Chemco one-bite powderless etching machine, Champlain Cavalier Carton-Makers, 3M presensitized offset plates, the rotary presses for wrap-around plates shown by Harris and by Miehle, 3M Automatic Makeready, and the Photon are representative of truly significant research contributions for the printing industry. This list is not a complete one, and the items are not mentioned in any order of importance. They were selected as examples only, from the long list of new developments on display at the Exposition.

J. Homer Winkler

Measure of Progress

The Exposition provided a measure of the progress of the printing industry since 1950. I believe there is little doubt but that the achievements of the past nine years have been more numerous, more extensive and more dramatic than those of the preceding 50 years. Graphic arts technology is advancing at a rapid rate, and this rate will continue to accelerate. We can reasonably expect that the next 10 years will yield even more developments than the past decade. Of what significance to management is this accelerating growth of printing technology? What story is this Exposition telling to the printing management? What opportunities are implied? What warnings are emblazoned in this show of equipment?

The first and obvious thing that one can see is the creation of pressures to buy some of these new things. The Exposition itself is a pressure builder —a mechanism tending to encourage change. Pressure to buy may originate from within the printing company or be stimulated by groups from outside. Printing company management may want to buy to reduce costs, speed up production, improve quality, expand markets, modernize the plant or increase the capacity and size of the company. Whatever the motive, printing company management makes the decision and, in this sense, exercises control over printing's destiny.

But pressures to buy, arising from outside the printing company, are a different story. They force the hand of management and call the turn of events. The major pressure group outside of the company is the large buyer of printing. Buyers in the advertising, packaging and publication fields are most persistent and outspoken in wanting the latest and most in printing facilities. These people are remarkably well-informed about new developments in printing—frequently more so than printing management itself. The cost of production is usually the motivation behind their recommendations. They are operating in areas of intense competition and they seek every opportunity to lower the cost of their own

* From a talk given at the 73rd annual PIA convention, Sept. 7-11, 1959, Waldorf-Astoria Hotel, New York.

product or services. They do not hesitate to make known what they want and expect. The printing industry can contribute substantially to their success when new developments are ingeniously and effectively used.

One large buyer of printing, Time Inc., has for several years been conducting a well-organized research program to develop improvements in magazine production. A rate of effort in excess of two and one-half million dollars per year is currently being invested by this company in graphic arts research, even though this company does not produce printing. Time has successfully introduced a number of significant developments resulting from its studies. To a lesser degree, several other companies who buy printing in large quantities are sponsoring graphic arts research in spite of the fact that they are not producers of printing. This situation is evidence of an impatience with the present methods of printing and the rate of improvement. It certainly provides a pressure on printing management to modernize.

Another pressure group acting on printing management is the machinery and supply industry. There are many industrial giants that have entered the printing machinery and supply field as part of their diversification programs in recent years. These companies were formerly not considered as printing industry units and are, thus, new factors in printing progress. Companies such as Du Pont, Radio Corporation of America, Fairchild, General Electric, Minnesota Mining and Manufacturing, Dow Chemical, Food Machinery and Chemical, and others have entered the field with large, well-equipped research laboratories and sizeable rsearch budgets. Their innovations were featured at the Exposition. These companies are creating more change and are acting as a spur to the old-line printing industry supply and equipment companies. By obsolescing present equipment and processing, they exert a powerful pressure on printing management, forcing modernization with all of its financing and inplant problems.

Still another pressure to buy originates from the increasing availability on the American market of foreign equipment and processes. The saving in costs is difficult to ignore in expansion programs, and the competitive advantages attained by one shop lead others to seek similar benefits.

Competition

And then there is competition to be considered. People do not have to buy printed items. There is competition for shelf, counter and rack space in the supermarkets and retail outlets. Printed items must compete with all kinds of products for this space. Those articles providing the quickest turnover and best markup are selected for display. If the costs of printing cause fewer sales to the consumer and a reduction in profit to the retailer, printed items will not be offered for sale in retail stores. You can't blame a supermarket manager for giving his shelf space to cosmetics or fishing tackle over books and magazines if the former offer twice the profit margin. This competition at retail outlets could have a detrimental accumulative impact on overall printing sales.

Television viewing and its use in teaching *does* reduce time available for reading, whether we wish to admit it or not. This could adversely affect magazine and book sales, especially if their cost to the consumer is regarded by him as excessive.

Modern transportation, shipping and communication facilities have made it feasible for foreign printers to compete in this country. The volume of printing being bought overseas is negligible at this time, but so was the volume of foreign automobiles a decade ago.

Another significant competitor of printing is the office reproduction and duplicating services industry. This growing giant does not utilize printing industry suppliers, facilities, labor or management, but it does compete for your business. American industry spent more than one and one-half billion dollars in 1958 for office reproduction and duplicating services, according to the *Offset Duplicator Review* magazine. This expenditure was for multiple as well as facsimile copies of administrative and technical material needed in daily operations, management reporting, product manufacture, distribution and sales, and for construction and future planning operations.

All of this volume of business was not taken away from printing, but a sizeable percentage did compete successfully against printing. Consider that there are over 100,000 Multilith machines now in operation. Each of these can print as many or more sheets per hour as the small-size job-presses you use. There are over twelve ways to prepare typographic copy now in use that do not require the typesetting facilities of the printing industry. Paper offset plates and presensitized metal offset plates can be made quickly and with simple, inexpensive facilities. It is not surprising to find that every bank chain in the country has installed a printing department, some of them as large as a medium-size printing company. Customers of the printing industry are doing more and more of their own printing, using office reproduction and duplicating services. The small printers were the immediate targets. The accumulative total of business permanently lost to the printing industry is quite significant. And not to be forgotten is the growth of the reproduction and duplicating industry. It is expected to be a three-billion-dollar industry by 1975. At that level it could be a much more serious competitor.

Commercial printers and publishers are also faced with competition from captive plants. Few, if any, of these plants now produce work for outside companies, but they do keep increasing the percentage of work done for their own company. A simple illustration is the trend for many banks to do their own imprinting of checks. This decreases the potential volume of sales for commercial printers. There is always the possibility that more large companies may decide to acquire or start a printing department. Equipment costs and printing prices will be major considerations in making this decision.

The producers of corrugated board and paperboard are continuing to integrate their operations. They make a paper product and then carry through

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In your management techniques,

Are You In a Rut?

By *Frank F. Pfeiffer*

THE economic plight of the printing industry today is not equipment, nor buildings, nor unions. It is a 100 percent lack of management knowledge, skill and know-how. Unless we can change in that area, little will be accomplished.

Far too many of us have become unconsciously complacent about our management job. We have failed to recognize the changes which have already taken place in the industry that call for a new alertness to change. These changes, and our disregard of them, remind me of the changes that have taken place in the habits of the average driver, which few seem to recognize.

The impact of the midget car on our driving habits has been so gradual that few drivers recognize the fact that they have had to become alert to a new menace on the highways. These little "bugs" have a habit of sneaking into holes that an ordinary automobile can't get into. This has called for a new area of alertness. Also, because of their size, drivers of these cars have developed the habit of passing on the right. Your ordinary rear view or side mirror will not pick up this hazard, and consequently most of us, after a few near accidents, have changed our driving habits sufficiently to look out the right side of the car before we whip into what apparently is a hole in the other lane of traffic.

I think most of you recognize that these small autos have posed for us drivers a new area of alertness, but I will gamble that five minutes ago you would not have acknowledged any change in your driving habits, simply because the change has been so gradual that you have not recognized it as such.

Frank F. Pfeiffer

About a year ago, we had a speaker at Reynolds & Reynolds, talking to our management group, who made quite a point of the fact that most of us live in a rut. To illustrate, he took the average man's day in which he gets up at a certain time in the morning, goes to the bath, shaves, grunts, sneezes and coughs, finally eats breakfast, gets the same car out of the same garage, drives the same route to work, and then at the end of the day, reverses the pattern. This speaker was an advocate of changing this sort of thing—mixing up the routine so as to get out of the rut. He laid special emphasis on the route you drive to work each day, and frankly stated that if you always took the same route, you were definitely in a rut. He recommended that you find different ways to come to work and go home as, at least, a start in the right direction of getting out of the groove. One of our foremen took him seriously, changed his route that very evening, and smashed up his car going through a stop sign that was new to him.

Now, along this same line, are you in the rut in your management techniques, in the way you manage your business? How long since you have made any drastic changes in it? There is no question but that it has been a long, long time as far as the average manager is concerned. Our industry has been slipping down hill—any way you want to look at it—for about 10 years.

The biggest mistake you can make is to find something to blame other than yourself as the manager. Don't, for goodness sake, get yourself convinced there isn't anything you can do about it. The answer to profits of 8 to 17 percent before taxes is right in front of you, if you will but admit your own weaknesses, and make an honest effort to find the answer.

Where Are We Today?

Since most of us, as printers, feel that other printers are a little stupid for being printers, let's forget for the moment that I am one of your competitors, and let me represent myself as the chairman of a loan committee of a large bank, insurance company or investment trust. Now it wouldn't be fair for me to assume the role of a financier instead of a printer and not give you readers the same opportunity. So, for the next 30 minutes, you are not printers either. You are the loan committee of this large lending institution.

* From a talk given at the 73rd annual PIA convention, Sept. 7-11, 1959, at the Waldorf-Astoria Hotel, New York.

You were selected by your organization to sit on this loan committee, not because of your knowledge of printing or the graphic arts, but because you are a good, sound businessman, and comprehend fully your obligation to protect your institution, its financial integrity, its investments and its income. From that standpoint, alone, I would like for you to judge the eligibility of the printer whose application for a loan I am about to present to you.

The facts of his operation which I will present to you are taken, generally, from information published by the Printing Industry of America, Inc. and are readily available to all of you. Our printer applicant is merely the average in his size class of all of us. He is typical of the average printer in our industry; therefore, he is not *un*typical of you. If you are better than this printer—congratulations! For every one of you, there are five of us who fit this picture perfectly.

Gentlemen of the loan committee: the next application is from The Average Printing Company, a corporation in our city, doing business in this general area, and a customer of this institution for over 20 years. The application is signed by Mr. Ray W. Smith, president. Your chairman spent several hours with Mr. Smith, talking over his financial needs, and his tangible and intangible assets, which are to be used in whole as collateral for this loan, if accepted.

The amount of the loan we are considering is $200,000.00 to be repaid in equal payments over a 10-year period, plus 5½ percent interest. The past credit record of The Average Printing Company is quite good, but has never been extended in the past beyond a 90-day note, which, on several occasions, has been renewed for 90-day periods. I have ascertained that the loan is to be used for long-term expansion of the business, largely to be invested in equipment and an addition to the present plant. Fortunately, this money is not needed on an urgency basis, but should be committed, if granted, for use within the next six months to one year.

The Average Printing Company has a ratio of sales to gross plant investment, currently, of 2.8 to 1. In other words, slightly less than $3 in sales for every dollar of gross plant investment. I should point out that in 1953, this ratio was 3½ times gross plant investment. It has been diminishing each year since, and is now below three times; likewise, their sales to net worth.

The Average Printing Company enjoyed a sales increase in 1958-1959 over 1957-1958 of 2.34 percent, which is very good when compared with other manufacturing. However, it is quite apparent this sales increase was brought about by lower pricing of the product, because net profit on sales, after federal taxes, dropped 25 percent from the previous year. Another interesting side-light on profits is that they have been decreasing for approximately a 10-year period. In 1950, The Average Printing Company earned 8.60 percent before taxes, and 5.38 percent after taxes; whereas this year, profit before taxes is 4.55 percent compared to the 8.60 percent, and 2.53 percent compared with 5.38 percent after taxes.

Emphasis on Price

When compared with industry as a whole, I am sorry to say that the outlook, based upon past performance of The Average Printing Company, does not compare favorably. It seems quite obvious that The Average Printing Company is more interested in meeting a competitor's price than it is in making a profit. For example, taking the national statistics on all manufacturing for the past 10 years, we find sales for all manufacturing increased 93 percent, compared with an increase of 104 percent with The Average Printing Company. The end result of this is that all manufacturing shows an over-all profit *increase* to sales of 15 percent, whereas The Average Printing Company shows a *decrease* of 21 percent.

Because Mr. Smith and The Average Printing Company have been good customers of ours for many years, I spent more than normal time in trying to understand the industry in which he operates. I did this with the thought that perhaps I could find a reason for these rather discouraging statistics. I obtained a copy of the PIA Ratio Studies and found that while The Average Printing Company *is* typical of the printing industry in terms of these facts and statistics, the picture in the industry is not quite so dismal. These Ratio Studies reveal that one printer out of five still is earning a profit in excess of 8 percent before taxes. I also found that about one printing plant out of every eight is earning profits in excess of 12 percent, before taxes, up to 17 percent. Regardless of these facts, however, I should caution you that The Average Printing Company is typical of its industry, and that in considering this application, we are not talking about a particularly unusual nor bad operation when compared with the whole industry.

Some of this problem undoubtedly stems from the inability of the Average Printing Company to acquire better production equipment, either from lack of capital or, as my study reveals, because of the lack of initiative on the part of equipment manufacturers to develop equipment with sufficient productivity to overcome increased labor costs. Here, again, making a comparison with other manufacturing industries, I find that while tremendous amounts of new capital have gone into plant and equipment expansion in industry generally, in the case of The Average Printing Company, the total increase in this factor in a 10-year period was but 23 percent. Assuming at least a 2 percent price increase per year, these figures indicate there has been no increase in actual units of production in The Average Printing Company. A current picture with reference to plant and equipment investments is even worse than these average figures would indicate. Some years ago, The Average Printing Company invested about 8 percent of sales in plant and equipment. Currently, the factor is but 5 percent to sales.

Productivity Gain Slight

Undoubtedly, these facts with reference to plant and equipment investment bear directly upon the next set of figures I am going to give you, which have to do with productivity. The productivity index of all manu-

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LEADERSHIP

in the Middle West

By *Carl W. Moebius, Jr.*

Vice President, Sales, Moebius Printing Co., Milwaukee

IN A recent issue of this magazine (*August, page 36*) it was reported with some vigor that mid-America is "scared of anything that is new, exciting and different." It was further reported that "we don't design or produce color and we don't know how to merchandise it."

Those are bold statements, which are not so much offering of challenge as they are deserving of correction or clarification.

The case for "mediocrity" has been presented, but, because we believe "leadership" constitutes the facts, we may refer to the previous article to bring the facts in proper focus. Let us examine the growth of lithography nationwide, for its development is closely allied with the growth of our national economy as well as the growth of the entire graphic arts industry. Historically, lithography followed the industries it served, and since the breweries were originally lithographers' biggest customers, it followed that large brewing centers became litho centers and subsequently graphic arts centers. This flow — as was typical of our country's growth — moved westward — starting in New York, Philadelphia and Baltimore — thence to Cincinnati, Milwaukee, Chicago, St. Louis, St. Paul and later over the Rockies to San Francisco.

Publishing Moves West

Then, as publishing moved its activities with the country's growth centers to the Midwest, the field of graphic arts further strengthened and continued to grow to produce the massive graphic arts center in the Chicago to Milwaukee area. The statement in the August article, that "other areas raid the middle West" is not borne out by facts, for two principal reasons.

1. The graphic arts, as a service to industry, has traditionally followed industry.

2. From a materials handling standpoint, it made good sense to ship tonnages the shortest possible distance, commensurate with facilities and product quality.

A further look at industrial growth indicates that the years involved in war production, 1940-1945, provoked an upsurge of industrial development on a greater scale than ever before experienced, from the Rockies westward and south of the Mason-Dixon Line. It only follows that the graphic arts operations previously serving those areas from the Midwest, and prior to the advent of this surge of industrial growth, would now be doing less business with the companies who could deal with growing litho plants in their immediate area. Recognize too — relative to tonnages — the largest west coast lithographers prior to 1950 were principally involved in mass production of tonnage lithography in labels, displays and wraps for the brewing and fruit industries as well as limited amounts of consumer literature.

When we examine the addition of equipment on the Pacific Coast as compared with the Midwest — let us recognize that the Midwest replaced its major equipment virtually en masse in the years 1946-1955. This was at a rate that might preclude the possibility of continuing equivalent improvement and expansion programs for a second decade. The Midwest graphic arts firms who showed their leadership in such modernization and expansion were one of the reasons for the *slower* development of West Coast operations. So, with the West Coast graphic arts following at a natural economic development pace, it would also follow that, by comparison with their own records, they should show a "150 percent increase in volume" or go broke trying to substantiate such capital investments.

One further word, regarding "source of supplies." By this, we presume, is meant substantially paper, since PIA records of 1958-1959 year show for 709 plants an average of 21 cents out of each sales dollar represented in paper purchases. The West Coast paper manufacturers have expanded their operations and now satisfy quite a substantial proportion of the paper needs in that area.

Thus, we believe that comparisons of growth in terms of plant and equipment are irrelevant to aggressiveness, ar-

tistic talent or sales ability and are related strictly to the results of free enterprise in graphic arts, keeping pace with the growth in our national economy.

Let's Look At Sales

Now, let's look at sales, in all phases of graphic arts, from agency, creative designers, through lithography. The August article told of the query of 12 purchasing agents who had "seen only three litho salesmen in the past 10 years." This was followed by the statement, "We haven't been getting off our fannies long enough to sell color." Although purchasing agents in large corporations perform a distinct function in connection with the purchase of all materials, it is news to us that creative salesmen are expected to aim their selling efforts principally at these agents. Since, in any business, large or small, the responsibility for the promotion and sale of the company's product or service rests with the promotion or advertising manager, these statistics have little relevance. Few purchasing agents would attempt to go out of their field and profess to be judges of art, design, layout and color.

Salesmen in any area of sales are subject to all of the human reactions that their buyers want to reflect. We fail to see how the example cited of one, perhaps ill-disposed individual of a travel tour company, who failed to get Midwest salesmen to respond, becomes a broad example of listlessness on the part of *all* salesmen. After all — a salesman gets paid only for what he sells — nothing else, and why would he intentionally reduce his opportunity for income by ignoring a worthwhile customer?

Philosophy of Color

As a second area of discussion, let's examine this philosophy of color and the authority to pass judgment on design in art or photography. It was implied in the article that a preponderance of black and white entries in a recent show of Chicago Printing Design at the Art Institute, represented mediocrity. If we are to draw such conclusions—we must assume that every piece of art produced for every national magazine or local newspaper to sell goods or services must be classified as mediocre art because it is not done in color. It would be more realistic to recognize that all the artist's skills are called upon to achieve maximum effect when only a single color is to be used.

The fact that national graphic arts organizations have contests at which full color designs are shown is *not conclusive evidence* that *all* designs and art have been submitted. A package design or full color art treatment is not judged a success at the contest level — but rather at the level where sales and merchandising effects can be felt. A panel of judges, weighing the relative virtues of competitive pieces in a contest, are expressing their opinions of what they individually like. The mass buying public are far more critical judges and are the final judges of the advertiser and the design employed.

One further point, in connection with the comments on art and photography. It would be a rare assignment in advertising that didn't require the top talent of an artist to develop and set the stage for an equally talented camera man to interpret at the lens. Photography broadens, instead of limits (as was implied) the opportunities for creativity in the artist.

The entire market for the multitude of small jobs — menus especially, but also letterheads, small folder runs and the like—is one where color use is principally controlled by the simple expediency of economics. There are few restaurants lavish enough to be able to spend money on colorful menus, and the same is true of the small company which uses a maximum of 5,000 letterheads a year. Even the plush restaurants, using good taste in their overall designing, often prefer a single color menu to stand out among the color of their patrons' jewels and clothes.

'Juggernauts' of Direct Mail

In an overall view of the national use of direct mail, and this includes all types of merchandising catalogs, we'd like to know where, but in the Midwest, does one find the talent, equipment and know-how to produce the true "juggernauts" of direct mail — the colorful catalogs of Sears, Wards, Aldens and others? Can it accurately be said that, in the Midwest, "we don't design or produce color . . ."?

Furthermore, it took leadership in the management of Midwest graphic arts concerns to develop the know-how to mass produce publications such as *Life* and *Look*. What's more, in a transfer from the East scheduled to take place in 1960, we shall see another of our venerable, top quality national magazines, always resplendent in reproductions of natural color, being produced in the Chicago area. Midwestern leadership, recognizing the graphic arts as a service industry, set up publication production facilities on the West Coast to best serve their customers. It also took management foresight and capital at Western P. & L. in Racine to set unto operation the largest 8-color web-offset press in the country, producing full color children's books.

Talent Is Uniform

We would not presume to judge the "height, breadth and depth" of the West, except for its magnificent mountain scenery—for our premise lies in a national scope of graphic arts operation. Talent, in manpower, modern equipment and production planning in this industry, fortunately for our customers everywhere, progresses uniformly across the country, because of the excellent communications this entire industry enjoys, at all levels. Artists' guilds, graphic arts publications and trade associations, afford us an opportunity continually to exchange ideas, and it would be the height of folly to claim that any one region was mediocre in relation to others.

We sincerely feel that the Midwest needs to take no second place in progress and development. We certainly will continue to welcome all of our friends to the many Midwestern conferences in all areas of graphic arts, where they may study the latest in art approach, examine new photographic techniques, discuss sales promotion ideas and visit, at the heart of the nation, many of the country's leading graphic arts producers.★

Self-Advertising winners: **Seated** (l-r.): J. Tom Morgan, Litho-Krome Co., Columbus, Ga.; A. G. McCormick, McCormick-Armstrong Co., Inc. Wichita; W. G. Young, Miller Printing Machinery Co., who presented the awards; William Hirsch, The Drake Press, Philadelphia; Sherman I. Frank, Bay State Press Corp., Boston. **Standing:** Claire Barry of the Barry Sisters; Jack White, Globe Color Press, Inc., Oklahoma City; Edward Thomas, The Grit Printing Co., Wichita; Harry M. Fritz, William G. Johnston Co., Pittsburgh; Edward Gold, Offset-Craft, Inc., New York; and Merna Barry. **Right:** Judges Lohr, Burchard, Watts, Hansen and DeLay.

Litho Firms Make Good Showing In Self-Advertising Contest

TWO repeat winners shared the spotlight in the 1959 PIA Printers and Lithographers Self Advertising Competition when awards were handed out last month at the PIA convention. At a special awards breakfast sponsored by the Miller Printing Machinery Co., Bay State Press Corp., Boston and William G. Johnston Co., Pittsburgh won first prizes for the second year in a row.

Bay State's award was for a self-advertising campaign in the competition among small shops. Johnston won its award for a campaign in the judging for large companies. There were many other familiar names among the runners-up, honorable mention and "Best Fifty" categories, indicating that many progressive firms realize the importance of advertising their equipment and services year after year.

Judges for the competition included Robert W. Watts, representing Advertising Federation of America; Kenneth R. Burchard, AIGA; Robert F. DeLay, DMAA; John W. Hansen, NIAA; and George A. Lohr, PIA. The awards catalog contained no comment from the judges panel, as in former years.

The winning exhibits were on view at the Waldorf-Astoria Hotel in New York during the PIA convention. They may be borrowed for display by local and national organizations by contacting Miller Printing Machinery Co., 1117 Reedsdale St., Pittsburgh 33, Pa.

Following are awards for small (1-19 employes), medium (20-99) and large (100 and over) plants, including a good percentage of lithographing companies:

Contest Winners

INDIVIDUAL—*Small:* 1. Offset-Craft, Inc., New York; *Medium:* Litho-Krome Co., Columbus, Ga.; *Large:* 1. McCormick-Armstrong Co., Inc., Wichita. CAMPAIGN — *Small:* 1. Bay State Press Corp., Boston; 2. Globe Color Press, Inc., Oklahoma City; *Medium:* 1. The Drake Press, Philadelphia; 2. The Grit Printing Co., Wichita; *Large:* 1. William G. Johnston Co., Pittsburgh; 2. McCormick-Armstrong Co., Inc., Wichita.

Honorable Mention Awards

INDIVIDUAL—*Small*: Cape & Co., Ltd., Toronto; Dudley Printers, Inc., Hampton, Va.; Globe Color Press, Inc., Oklahoma City; Seaboard Lithograph Corp., New York.

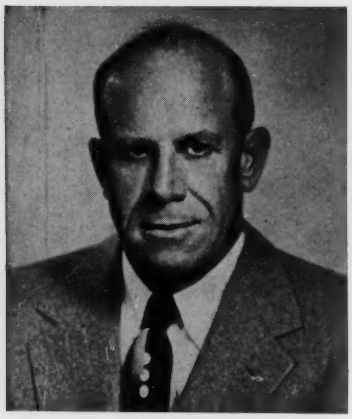
Medium: Frank Mayer & Assocs., Inc., Milwaukee; Unique Printers & Lithographers, Inc., Chicago; The Veritone Co., Chicago.

Large: R. R. Donnelley & Sons Co., Chicago; Herbick & Held Printing Co., Pittsburgh (two awards); The International Press, Inc., New York; Keller-Crescent Co., Evansville, Ind.; The E. F. Schmidt Co., Milwaukee.

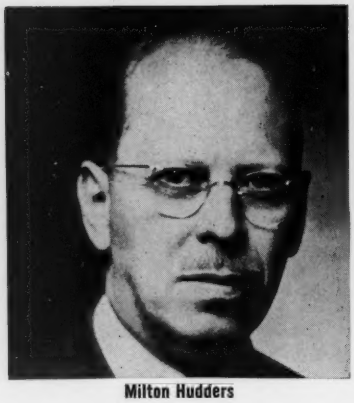
CAMPAIGN—*Small*: Mastercraft Lithographers, Inc., New York; P.A.P., Arcadia, Cal.; Poertner Lithographing Co., Denver.

Medium: The Hub Offset Co., Boston; Lebanon Valley Offset Co., Inc., Cleona, Pa.; Litho-Krome Co., Columbus, Ga.; The Simpson Press, Ltd., Montreal.

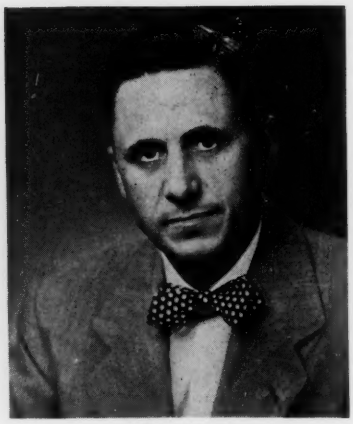
Large: R. R. Donnelley & Sons Co., Chicago; Herbick & Held Printing Co., Pittsburgh; W. A. Krueger Co., Brookfield, Wis.; The E. F. Schmidt Co., Milwaukee.★



Otis E. Wells



Milton Hudders



J. Tom Morgan

Biggest in history:

NAPL Plans Record-Breaking Exhibit, Convention in K. C.

THE biggest, most exciting graphic arts year in a decade will come to its conclusion in Kansas City, Mo. next month with the 27th annual convention and exhibit of the National Association of Photo-Lithographers.

The meeting will be held at the Muehlebach, with the exhibition at the Municipal auditorium, connected with the hotel by a passageway. Dates are Nov. 18-21.

Advance indications are that the exhibit will be the biggest in association history, complementing the excellent exhibits on view last month at the Coliseum in New York.

The usual busy program, covering a wide variety of topics, has been announced by Walter E. Soderstrom, executive vice president of NAPL. The tentative program includes these features:

A panel discussion on "The Mathematics of Lithography," with NAPL's accountant Frank R. Turner, Jr., presiding. Otis E. Wells, past president of the association, will talk about compensation of salesmen and markups, while Edward W. Armstrong, Oliver F. Ash, Jr., and Milton Hudders will handle specifications, estimates and quotations. A talk by Thomas E. Brinkman on "Our Experience with Machine Accounting," will conclude this session.

NAPL president Stanley R. Rinehart will open the convention Wednesday afternoon with a discussion of business administration in lithography. Offset papers will be covered by Ronald I. Drake, and magnetic imprinting by Edward Robinson. Final talk at the opening will be on colored papers, by Roy M. Barnes.

Mr. Soderstrom and A. J. Fay will handle selling programs and training of salesmen, while Walter B. Graham will speak on "The Key to More Profits." J. Tom Morgan, Jr., will address the convention on quality levels in lithography, and Mr. Wells will return to give a second talk on "LTF Research, a Progress Report."

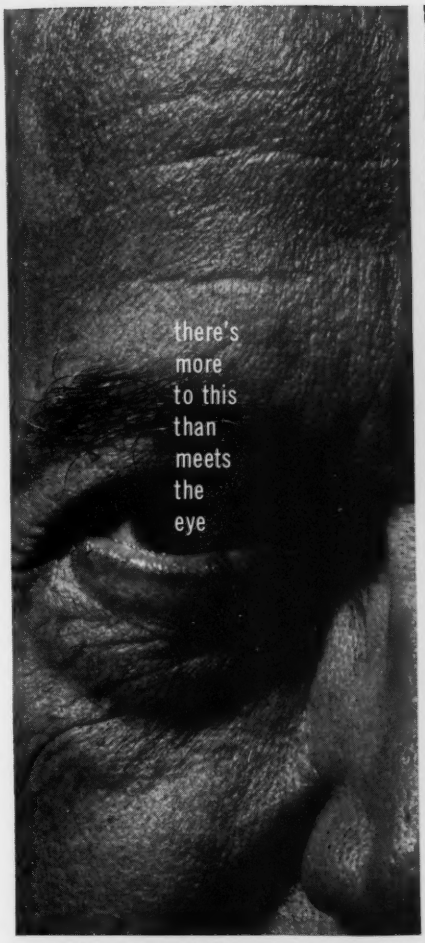
A number of other speakers will discuss and demonstrate a variety of new materials and techniques of interest to lithographers. A complete list was not available at presstime.

Concluding portion of the program will be the all-day technical session on Saturday, with William J. Stevens of the Miehle Co., again moderating. Panelists will include Michael H. Bruno, George D. Krug, Richard J. Schmied, Philip Tobias and Lawrence Kenney.

The annual dinner dance and entertainment are scheduled for Friday evening. As a special gift to those attending the convention, the association will present a copy of the newly revised "A Study of a Simplified Method for Building Budgeted Hourly Cost Rates in a Lithographic Plant."

Litho firms need not be members of NAPL to attend the convention and exhibit, the association emphasizes. Complete details of the program will be published in the November ML.★

Mr. Soderstrom reported at press time that more than 800 persons had made reservations at the Muehlbach.



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Type 3 emulsion means a remarkable improvement in your working flexibility and your results with stripping film. You have more exposure and development latitude to work with, for instance. You can see improved halftone dot hardness and line density, improved contrast, as well.

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Become familiar with Type 3 on its many supports. Its good results are universal. You'll find Type 3 fits your techniques, eliminates guesswork, seems to cooperate with you more than other emulsions do to give you more hits and fewer misses than you've ever had before.

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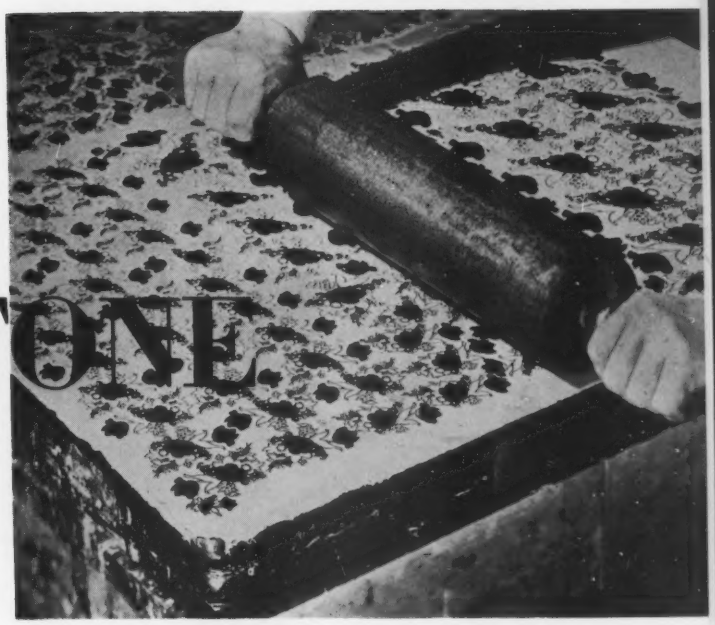
The heart of lithography is

STONE



By *Joan K. MacNeary*

THE heart of lithography, as every old-timer knows, is stone; stemming from the invention in 1798 of Bavarian playwright Alois (Aloys) Senefelder. This was an exciting year in America — the year the 11th Amendment protected the states from civil suit and Eli Whitney, inventor-to-be, contracted in Connecticut to supply the United States government with 10,000 muskets in two years' time.

But playwright Senefelder was concerned with his own problems and from them came his invention. He wanted to print his own plays, thus eliminating the expense of costly copper plates, used in the engraving process.

Prior to the invention of lithography by Senefelder, there was no cheap method of reproducing pictures or similar matter. Heretofore had been used those time-consuming methods of engraving which started with the woodcut of China's 700's. The intaglio process started in the 1400's, whereby a steel stylus penetrated a metal plate. Etching began in the 1500's, using acid to eat the design desired into a metal plate.

Robert Treat Paine, Jr., speaking before the Boston Museum of Fine Arts in 1928 stated, "The earliest dated European print that we know of belongs to the year 1423 A.D. In order to find the corresponding figure for the orient, we have to go back to the year 868 A.D."

Culture From Korea

Painted panels done in Korea in the 16th century were reproduced in commercial designs all over the world. Korea was a land of high and ancient culture. The seeds of its fine civilization came out of China. From its plundered art treasures sprang the great art of Japan. A book printed in Korea, with movable type, thought to be made of clay, is traced to the year 1337 A.D.

Old-fashioned way of engraving music on metal. Nowadays, it's almost all done by offset.

Limestone Instead of Copper

Senefelder had experimented with intaglio and etching in a desire to print his plays. Finding both processes too expensive, he sought an easier and cheaper method and found it in stone, but first as a *relief* plate. He substituted limestone for the expensive copper plates of the engraver, scraping away the stone's surface and leaving his desired design standing out in the manner of a woodcut. The story goes that he had drawn designs upon a stone with a greasy crayon. Spilling water on the stone he noted that the water was repelled by the greasy-crayoned surface, disappearing into the porous limestone where it was devoid of design. He thus hit upon the idea of using a greasy ink in conjunction with the crayon image on the stone.

Origin of Name

From his observation that grease repels water, but not itself, Senefelder was able to *invent* a new type of printing which he called "lithography", the name taken from the

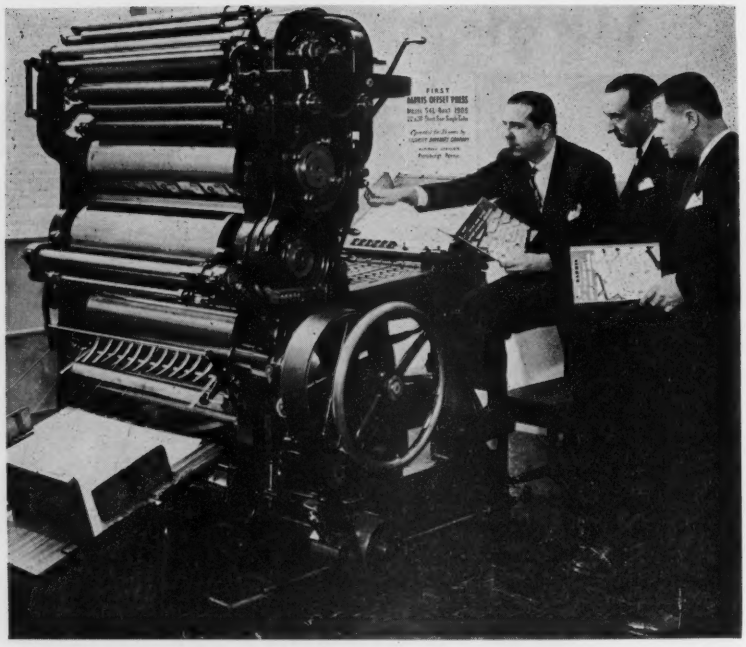


Photo taken about 10 years ago of Harris-Seybold officials examining first Harris Offset press, model S4L, built in 1906 and operated for 35 years by Security Banknote Co. The single color press handled a sheet 22 x 30". While lithography dates to 1798, the first offset presses did not make their appearance until just before the 1900's.

Greek *lithos* meaning stone, and the Latin *grapho*, meaning to write, (Later on, a specific category became established in the lithograph arts which referred directly to writing or drawing on uncoated paper used for transfer purposes upon the stone. This was called "autography," and although it followed the customary method of lithography, it concerned "writing", passed through the press but once, such as the bankers' circular which was very popular in its day.)

Senefelder predicted a brilliant future for lithography and the fact that his early method was adopted almost immediately is attested to by examples of early lithographic stones, found at Kelheim and Solenhofen near Pappenheim on the Danube River in Bavaria. Other early efforts and finely crafted lithographic stones have been found in Silesia, England, France, Canada and the West Indies.

Composition of Stones

The chemical composition of these lithographic stones included lime, clay and siliceous earth varying in hue from a pale, yellowish white to a light buff, reddish, pearl gray, light gray, blue and greenish color. The stones of uniform color were considered the best 1) The yellow buff stones, being soft, were adapted for lettering and transfer work 2) The pearl-gray stones, being harder, were used for chalk drawings and engravings. Both types were found in stone beds which contained layers of the thickness of paper, gradually reaching dimensions of several inches. These latter, still being soft in the quarries, were easily cut to the sizes required for printing purposes.

These cut stones were then ground plain with sand, and, when specifically required for the pen, brush, graver or transfer, they were polished with pumice and water-of-Ayr stone. When they were being prepared for chalk drawings of multi- or graduated color tints, an artificial grain was introduced to the stone's surface by ground glass or fine sand.

When drawing or writing was finished on stone, it had to be etched. Chalk drawings were done on the grained stone with chemical chalk, and sharp lines were traced with ink, first creating the effect and afterward adding the detail, thus producing freshness and softness in appearance while at the same time allowing for freedom of manipulation whereby a great many impressions might be yielded from the stone.

In the case of tinted drawings, chromo-lithographs and colored maps, as many stones were required as colors desired. Thus one stone was printed on the paper after another, and then fitted and blended together to produce, when completed, the desired effect.

Transfer Work

The transfer of writings, maps, drawings in line or music, done on copper, steel, pewter and the like and the re-transfer of any line-work, already on the stone, formed a very important part of lithography, because an unlimited number of impressions could be produced at a very moderate expense without wearing out the original plates or stones. Parts of various plates and stones could be transferred to and printed from one stone.

As a result of Senefelder's use of a stone slab from Solenhofen, Bavaria for his first experiments in transferring pictures from stone, the word 'Solenhofen' became synonymous with lithographic stone. Senefelder had formerly used the Solenhofen stone as a slab on which to grind his printing inks. The materials used for this acid-resistant mixture included beeswax, soap and lampblack, which, traditionally, forms the basis for those lithographic crayons called "tusche", still used for drawing on stone.

Treated Stone Like Copper

When Senefelder decided to substitute the stone slab for the copper plate in engraving, he treated the stone's surface in the same manner in which the copper plate had been treated prior to printing. The surface of the stone slab, however, was easily affected by acid. This vulnerability was abbetted by a layer of wax introduced to the polished surface of the stone.

The drawing affixed to the stone's surface was then made with a pointed tool which laid the surface of the

stone bare in those areas where the engraved pattern was to appear in outline. The acid was then applied to the stone and the remaining wax was now removed.

The etched lines of the stone's surface were now filled with printing ink. The surface of the stone was next cleaned with water and an impression on paper was obtained from it. This is the manner in which vignette engravers have treated lithographic stones.

The 'Laundry List' Story

The story goes that Senefelder, in the process of experimenting with printing from stone, paused to take care of more practical things at hand. Requested to do so by his mother, he wrote a memorandum concerning the clothes they were about to send out to the laundry. He wrote on the polished stone with which he had been experimenting, with a pen dipped in the acid-resisting mixture he had been using.

Thereupon he discovered that it was possible to etch the surface of the stone by leaving the writing or drawing in relief, and thus enabling it to be printed much in the same manner as metal type.

Lithographic Methods

Lithography is and was an important medium because it can reproduce oil paintings, color photographs and water colors even as it can reproduce all the engraving categories.

In order that the lithographic result be good, the original form from which it is taken must be made in water color, oil or pastel. The stone lithographer then has a choice of colors to represent the original. In some instances, in an endeavor to capture the specific colors desired, it was and is necessary to superimpose one printing upon another, thus approaching, and often fulfilling, true color value.

Lithographers had a choice of some six to 14 colors from which to choose when reproducing an original work. Initially, they laid a piece of gelatine on the original, to form the key plate, thus protecting it and at the same time creating a penetrable surface. By carefully tracing the original's desired outlines by scratching them in with an engraving needle, the lithographer outlined each color area in preparation for the application of tinted color wash.

The Key Plate Guide

When the 'key plate' had been completely traced on its gelatined surface, the lithographic ink or tusche was carefully rubbed into the outlines of the areas to receive color. This traced and inked outline was then laid face down on the slightly moistened and highly polished lithographic stone. The ink from the engraved outline became transferred to the polished surface of the stone.

The impressions thus transferred to the stone's surface were subsequently dusted with a red powder which adhered only to the design imprinted upon the stone.

The design on the stone was now ready to be "rolled in" with black printing ink, and etched. Chalk drawings next were rendered on the grained stone and sharp lines were traced with ink, thereby first creating the effect and thereafter adding the detail, thus producing freshness and softness in appearance.

By using the red powder, the lithographer was able to transfer that part of the design desired for a certain color to each sheet. This outlined design was then transferred to the lithographic stone's surface by putting sheet and stone, face to face, through a hand press.

While artists were improving their work on stone, improvements were being made in the presses used in the lithographic process, increasing their rapidity and sureness of movement. Much later on, steam presses could produce as many as 800 to 1,200 and in some instances up to 1,500 impressions an hour.

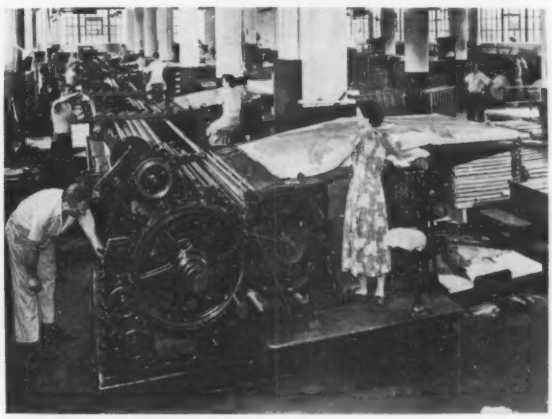
Such was not the case in the beginning, however, when the prover and the transferrer tediously studied the key plate for color deviation. The most dreaded occurrence to the lithographic pressmen in the early days was a stoppage in the press during the reverse movement of the stone. When this happened, injuries to the whole mechanism usually were serious because the rapidly moving machinery came to a dead stop with an impact severe enough to destroy the tedious hours of work spent in preparing the stone for the press. The introduction of a brake on the cylinder, to bring the machinery to a gradual stop in case of emergency, without jar or strain, eliminated this problem.

Color Identification

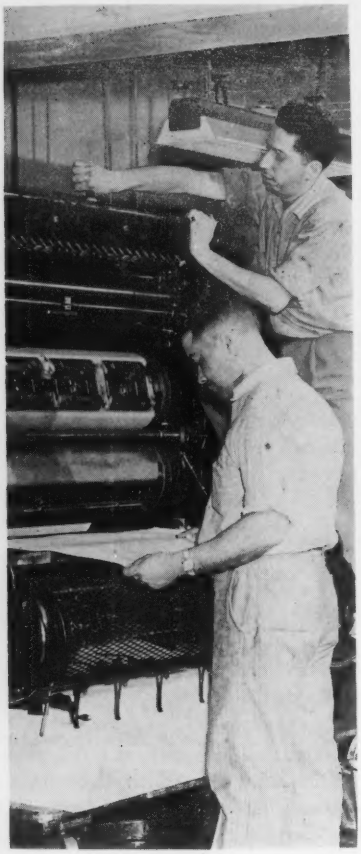
The key plate, which shows individual color areas, was provided with register marks.

(*Continued on Page* 131)

Hand transferring, performed in recent years at the U. S. Geological Survey litho shop.



Presses turn out posters by direct litho at McCandlish Lithograph Corp., Philadelphia.



It Pays To Check The Inking System

THE more automatic a mechanism becomes, the less attention is given to it. When plates were inked with a hand roller, the pressman or prover paid scrupulous attention to the condition of his rollers. When a semi-automatic inking system of leather rollers was used on presses, the rollers were removed every night and cleaned and scraped and treated, then carefully reset.

Then came the composition roller and the washup machine. The system is now so nearly automatic that it suffers from inattention. Rollers may be cleaned fairly well without removing them from the press. Consequently, their setting is not checked for months at a time. The surfaces are allowed to glaze and lose tack and get hard. A few years ago a three-step-system for cleaning rollers was devised. It did a wonderful job but because it was three steps instead of one, it was not generally accepted. It added an extra five minutes to a press wash-up.

Quality in Camera

If we are going to have any sort of quality standard we must first get quality into our camera work and our plates. But just as important, we must transfer this quality from the plates to the paper. Glazed rollers, poorly set, will not do this job. A hard surfaced roller will not pick up ink as it should and will not deliver to the plate as it should.

The constant use of one of the better roller conditioners will help to keep rollers in condition if practiced from the time they are new. Removing them occasionally, at least once a week and going over them by hand with rag and Lestoil and pumice will help. Rollers that are badly glazed will need more drastic treatment. They may even have to be sent out and be reground.

Vibrators and Rollers

Care of the inking system includes not only maintenance of the form rollers, but the vibrators and the gears that drive them. Keeping the entire driving mechanism clean and well lubricated will materially put off that day when streaks appear and the whole thing has to be rebuilt. The ink fountain and the ductor need constant attention regarding cleanliness and setting. An improperly set ductor or one that is damaged makes ink control almost impossible. If the fountain roller is grooved or keys are bent, dirty or mushroomed, setting will be time consuming.

Because of the critical requirements of grainless and presensitized plates, pressmen are paying more attention to the setting of form rollers to the plate. There is still a tendency to be careless in the setting to the vibrators. They set them too tight. It does not require great pressure between form and vibrator to impart good rotation to the form roller. It requires even less to transfer ink. Too tight a setting breaks down the ends of the form roller because most of the pressure is there. This pressure also bends the form roller stocks so that they sag and touch the plate too heavily in the center.

Checking the Setting

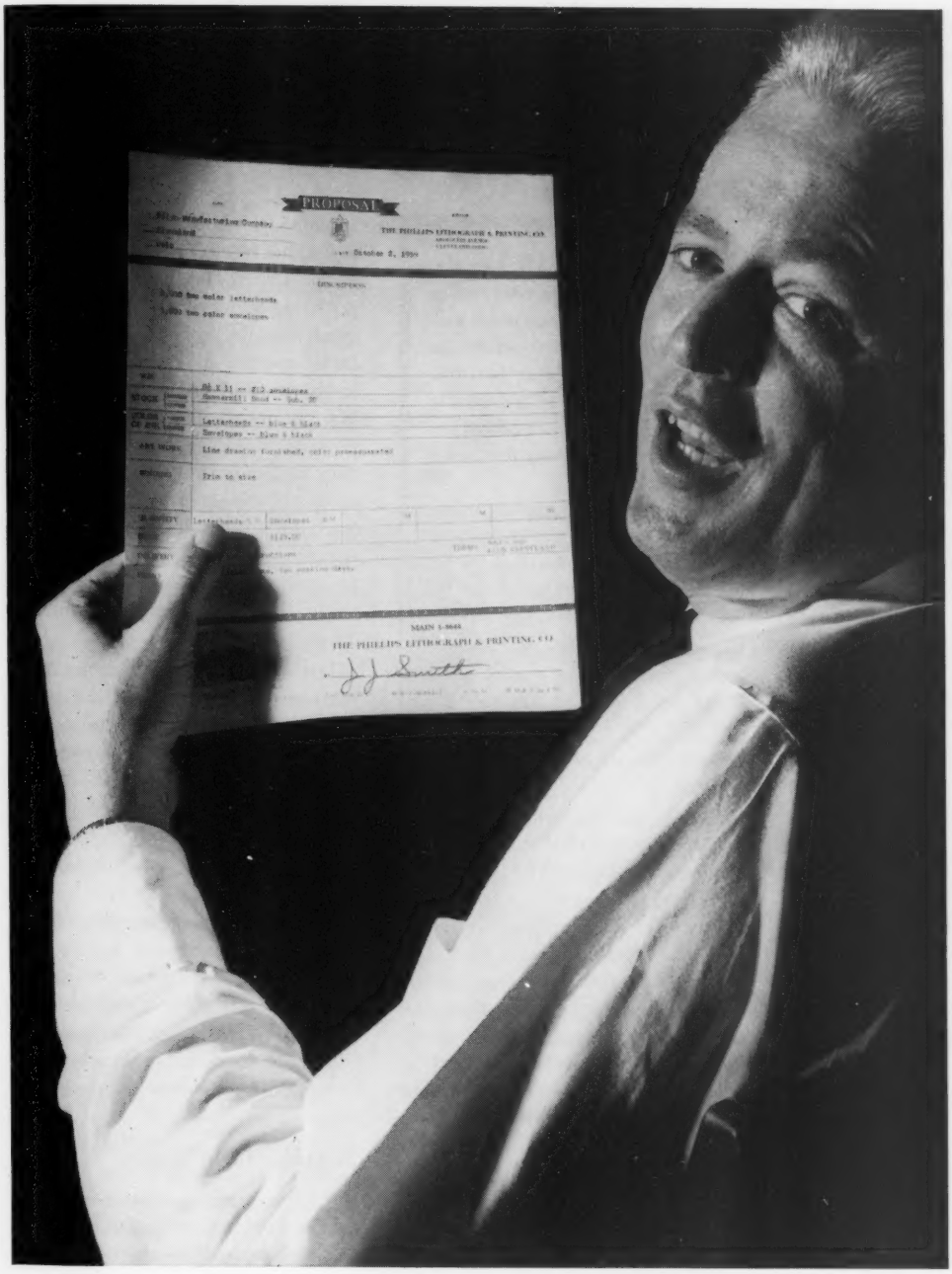
To check the setting of forms against the plate we drop the inked rollers onto the dry plate and look at the lines printed there. These lines will often be thick in the center and taper toward the sides of the cylinder. They should taper down to 1/16″ on small presses and ⅛″ on larger presses. If the centers are too thick, it may indicate that the forms are set too heavily to the vibrators.

To check setting of vibrators, ink up rollers evenly and stop press for 10 seconds or more. Then hit the inch button briefly and look for an ink rupture line on the back form roller. This line is caused by the sudden breaking of contact with the vibrator. It should resemble the line that is printed on the plate in the other test. Keep it narrow and even across the press. To check the rupture line on the front form, hit the reverse button. For forms 2 and 3, inspection is more difficult. Rollers 1 and 4 must be removed in most cases.★

From a bulletin of the Lithographic Division, New York Employing Printers Association.

My customers like bargains so I give them the biggest bargain I know - Hammermill Bond. When I use it I don't have to worry how the job's going to turn out. It runs over the presses without a hitch.....and I can count on it to give all of my customers the best results for their money.

HAMMERMILL BOND



HAMMERMILL

PHOTOGRAPHIC CLINIC

By *Herbert P. Paschel*
Graphic Arts Consultant

Is the f: System for Exposure Always Accurate?

Q: In my training I was led to believe that the f: system was a reliable means for computing exposure. In practice I find that this is not so. Can you explain why not?
W.C.W., BRIDGEPORT, CONN.

It is impossible for Mr. Paschel to give personal replies by mail, but all questions will be answered in this column as soon after receipt as possible. The columnist also is available to the trade as a consultant for more complex litho problems.

A: The f: number of a lens is the ratio of the focal length to the diameter of the free lens opening (effective aperture). The f: system was devised to provide a means for establishing the effective speed of a lens at given f: stops and for comparing the speed of lenses in general. The relative speed difference between two lenses, or two f: numbers is, theoretically, inversely proportional to the square of the f: numbers. The relative difference between f:22 and f:32, for example, is approximately 2x. Thus, the exposure required at f:32 would be double that at f:22 or, conversely, half the exposure given at f:32 would suffice at f:22. At least that is what is taught us by theory. Practice, as you have experienced, shows us otherwise.

The f: system fails to take into account the light losses due to reflections from the lens surfaces, misdirection of light (flare) due to internal reflections, and the light absorbed by the glass elements themselves. The f: system, therefore, fails to give us a precise indication of the actual light reaching the sensitive film. Computing exposures at different diaphragm settings or comparing lenses on the basis of the f: values is subject to some error. Additional errors are introduced because of discolored cement between elements, absorptions due to films of dirt and grime on the lens surfaces, backlash in the diaphragm mechanism, etc.

But the deficiencies of the f: system are not the total reason for the exposure problem. The reciprocity failure of photographic emulsions is probably of even greater magnitude than the inherent errors of the f: system. As part of your training you were undoubtedly taught that uniform exposures would result regardless of the strength of the light as long as the exposures were constant in terms of time/light units. Thus, if the light is twice as strong, cut the exposure time in half. If the light is weaker, by half, double the exposure time. Theoretically, since the amount of radiant energy ultimately reaching the film in both cases is equal, the results should therefore be equal. This theory likewise has been proved false in practice. Photographic emulsions do not respond in the same way at different illumination levels despite compensation to maintain uniform light/time unit exposures. When you change from one stop to the next you are, in effect, either doubling the illumination level, or cutting it in half. An exposure error could very well be due to reciprocity failure which you might then erroneously attribute to the f: system.

Lens flare is another factor that introduces exposure errors. The relation between image light and flare light varies with the f: value and thus changes the contrast of the image throughout the range of diaphragm settings. This too could be mistakenly taken for an error in the f: system.

For a detailed discussion of the influence of reciprocity failure and lens flare on the exposure problem I would like to refer you to a two-part article "Variables In Photography" which appeared in the January and February 1959 issues of ML.

Scanning Light System

Q: Is any process camera manufacturer applying the LogEtronic scanning light system to any camera? If

so, who, and when will this be on the market?

E. J. R., Los Angeles

A: The scanning principle based on a moving light has been the subject of considerable investigation and development. Very little of this effort has been applied to camera equipment in the sense you mean. Flying-spot scanning for the most part has been confined to machines which produce color-corrected secondary images from primary separation negatives made in the conventional manner. The Interchemical - RCA - Donnelly Color Scanner and the Crosfield Scanner are of this type.

The only commercially available camera that I know of utilizing a scanning light source is the H-P-K Autoscan, produced by Hunter-Penrose Ltd., London, England. This device combines an electronically controlled light source with a conventional camera system. The camera section projects a typical optical image onto photosensitive material. A scanning light illuminates the color copy. Part of the reflected light is intercepted and analyzed by the electronic circuitry, which thus modifies the scanning light in accordance with the built-in color correction factors. The Autoscan produces continuous-tone color-separated and color-corrected negatives, one at a time.

You are aware, of course, that Log-Etronics has announced availability of a model designed for making color separation negatives from color transparencies.★

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Study Web-Offset Problems

The Executive Committee of the Web-Offset Section of PIA met, Sept. 7, with representatives of web-offset equipment manufacturers and suppliers as associate members of the section to establish a program to help solve the immediate technical and mechanical problems encountered in the operation of equipment. Also in attendance were representatives of LTF.

As an initial step in the development of this program, the conferees agreed to develop informational and statistical survey forms in order to isolate these problems on a priority basis. The areas in which this initial study will be made include press equipment, paper, plates, ink, and blankets and rollers. The sources of information to be contacted are: printers and lithographers; manufacturers and suppliers and certain commitees which have been established within the organized framework of the Web-Offset Section.

The group developed a program for the 1960 annual meeting of the Web-Offset Section, which is scheduled to be held at the Chase-Park Plaza Hotel, St. Louis, April 20-22. Anyone desiring information concerning the meeting should contact George A. Mattson, managing director, Web-Offset Section, PIA, 5728 Connecticut Ave., NW, Washington, D.C.

The Web-Offset meeting was one of several held during the week of the Graphic Arts Exposition.

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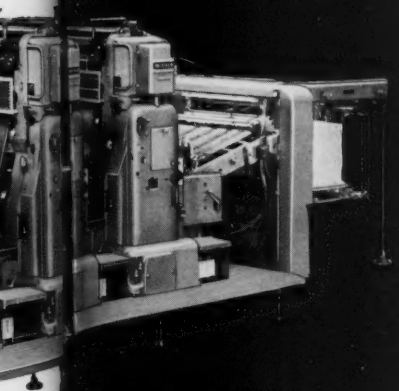

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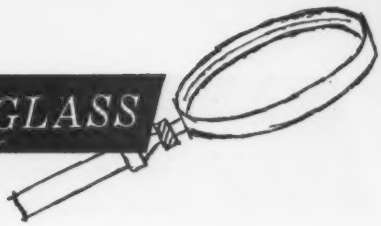


THE payoff at graphic arts exhibitions, as far as the suppliers are concerned, is the net sales and orders at the end of the show. ML talked to a dozen exhibitors and without exception, they were enthusiastic about the actual business transacted during the week. Among the most excited were the fellows manning the Anchor Chemical booth, who told ML they had tallied a quite impressive total sales figure during the show. Several of the press companies declared that they had realized their "quota" of sales during the first few days. Others were less happy, but were optimistic about the long range effect of their exhibits on future sales.

•

Dinners for the press were sponsored Monday evening by PIA, at the Waldorf-Astoria, and Tuesday evening, by Harris-Intertype, at the New York Athletic Club.

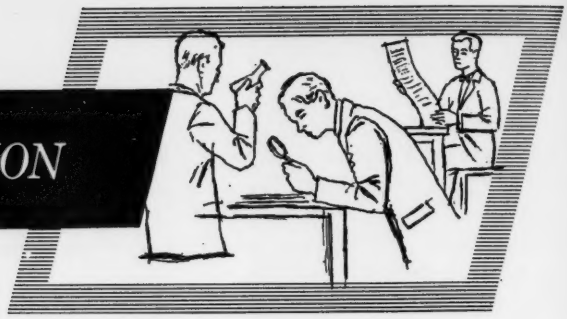
•

Special meetings during the week included the Bank Stationers Section of LPNA, a meeting of the NAPL board of directors and a get-together of the committee for the NALC convention next year in Boston.

•

Eight exhibitors, including MODERN LITHOGRAPHY, *were stashed away in a hidden annex to the exhibit area, far from the madding crowd, with nary a visitor in sight, until Gus Giegengack responded with some big, bold signs. The weary visitors then discovered that this auxiliary exhibit area was hard by the men's room. One exhibitor was even considering a towel concession to augment his business.*★

'I said to bring some ink; you'll get that much on your hands!'



'Music Typewriter' Is Aid in Printing

EXPERIMENTS with a "music typewriter" carried out by the Printing, Packaging and Allied Trades Research Association (England), have shown that it is possible to prepare originals for music printing in less than half the time it would take by conventional methods. In the annual report of the association a page of music set by a graduate who plays the piano but who had no previous experience at setting music, was reproduced.

The report notes that music printing presents no special difficulties once a satisfactory original has been prepared, the normal printing processes of letterpress or lithography being used. But the preparation of originals by traditional means demands a high degree of craft skill, and shortage of craft labor is causing serious delays in production.

Originals normally are set by hand from moveable type or engraved on metal by the craftsman. Composition from type demands a specially trained compositor and an extremely large case, comprising some 500 different characters. Few, if any, apprentices are coming forward to learn the craft and some of the type used is no longer available.

Hand engraving on metal—usually pewter—gives results that are a miracle of craft skill, but again the number of craftsmen is steadily dwindling and the position is likely to get no better, according to the report.

It is this situation which prompted PATRA to investigate alternate means of setting. The music typewriter—called the "Musicwriter" — enables music characters to be printed onto plain paper or onto paper pre-printed with staves of the correct spacing. The operation of the machine, made in the U. S., can be learned by an unskilled operator having an interest in music after about a week's preliminary practice—in marked contrast to the high degree of craft skill which the music engraver must acquire. The specimen reproduced in the report was taken from the Fourth Mephisto Waltz which PATRA's Director of Research, Dr. V. G. W. Harrison, has attempted to complete from Liszt's sketches preserved in the Liszt Museum at Weimar.

The machine has been used extensively in the U. S. It is produced by Music Print Corporation, in co-operation with R. C. Allen Business Machines, Inc., Grand Rapids, Mich., for the Music Print Corporation, Denver. British agent is Neta Service, 14 Philpot Lane, London, E.C.3. ★

Music typewriter was used to produce this specimen. It is part of the Fourth Mephisto Waltz, by Franz Liszt, completed by Dr. V.G.W. Harrison of PATRA.

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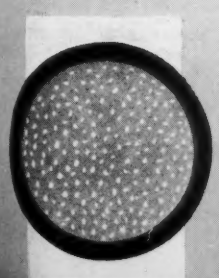
DAVAC is coated with a matte-like adhesive. This adhesive lets the paper "breathe"... absorb and release moisture, expand and contract without curling. DAVAC stays flat as bond... prints as easily... stores safely... ends customers' curl complaints. Takes ink beautifully, too. Unlike conventional gummed stock, DAVAC isn't broken nor stack calendered... gives you a mill-perfect printing surface.

DAVAC has been thoroughly proven on presses throughout the country. Thousands of printers like Mr. Porter use it, enthusiastically endorse it. Have your Nashua distributor tell you more about remarkable DAVAC — the original balanced gummed paper. He's listed on the back of this insert.



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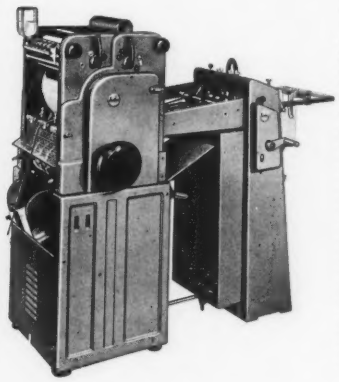

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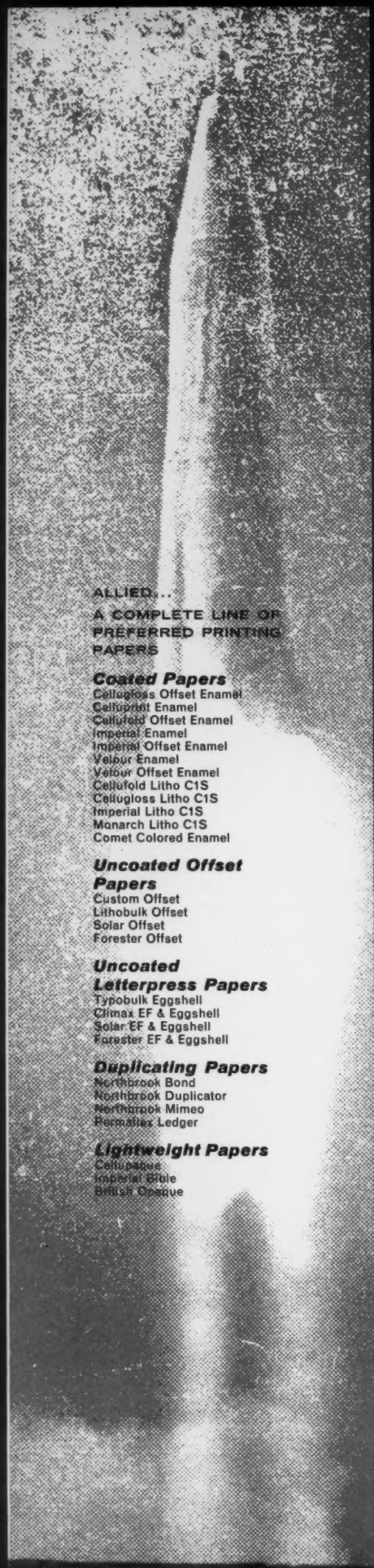

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Photography, Tone and Color Correction

COLOR TRANSPARENCY MASKING FOR REPRODUCTION BY OFFSET. Gyan P. Madan. *Inland and American Printer and Lithographer*, Vol. 142, No. 4, January 1959, pages 50-1, 2 pages. Third of a series on Modern Masking. An explanation of masking techniques for transparencies other than the 35-mm size. The importance and need for certain types of masks, such as area masks and highlight masks, are explained in some detail; such as the fact that some transparencies have densities as high as 3.0, while 1.6 is about the limit of reproduction capacity of lithography. The theory of the whole masking technique is gone over briefly, then the making of a highlight mask is gone into in some detail with illustrations and diagrams.

WHAT DO YOU DO WHEN THE CUSTOMER SAYS "THIS IS ALL I'VE GOT FOR COPY." Leroy F. Dyer. *New England Printer and Lithographer*, Vol. 22, No. 4, May 1959, pp. 50-1, 2 pages. Frequently printed copy is used as an original for subsequent printing. This can lead to several forms of trouble. Suggestions are given as to how to prepare photographic negatives which overcome these shortcomings.

HALFTONE MAKING FOR ENGRAVING-OFFSET. PART IV. Gyan P. Madan. *Printing Production*, Vol. 89, No. 8, May 1959 pp. 58, 62-3, 3 pages. This installment covers the use of prescreened film. Some history is given. The use of the film, exposure (a table is given) development are covered.

'DROP-OUT' PROCESS IN LITHOGRAPHY. Philip Grant. *Modern Lithographer and Offset Printer*. Vol. 55, No. 4, Apr. 1959, pp. 9-10, 2 pages. One of a series of articles on this subject. Methods discussed in this installment are: introducing drop-out into finished negatives (advantages: 1. no delay on the camera. 2. can introduce really solid, opaque drop-out. 3. color correction can have been done first). Specific directions for this method are given. Drop-out can be introduced as a positive image in litho-deep process. The Sears' Highlight Method is described as of historical interest.

ESTIMATION OF CERTAIN QUALITY CHARACTERISTICS OF PLATES FOR PROCESS WORK. W. Romer, M. Gredka, Z. Jackiewicz, H. Pasek, and W. Plebanczyk. *Journal of Photographic Science*, Vol. 6, No. 5, September/October, 1958, pages 144-152, 9 pages. Sensitometric criteria are proposed for measuring the "effective contrast" of photographic materials for line and halftone work. Methods of estimating the resolving power of materials in line photography and of dot quality in the halftone process are described. A dot quality coefficient has been formulated. Good correlation between the contrast factor and resolution has been found for materials of conventional type but no correlation for the novel materials relying on infectious development ("lith"-type materials). A linear relation has been found between the dot quality coefficient and the contrast coefficient for both conventional and lith-type materials. Latitude requirements for continuous tone copying of originals have been formulated. None of the materials tested satisfied these requirements.

ELECTRONIC SCANNING METHODS FOR COLOUR PRINTING. G. S. Allen. *Journal of Photographic Science*, Vol. 6, No. 5, September/October 1958, pages 125-140, 16 pages. This paper is a survey of research and development work on electronic colour correction. The basic problem of scientific colour correction and the essential requirements of any colour scanner are considered. All known colour scanners are described, and their technical development is outlined.

MASKING, COLOR SEPARATION. John M. Lupo, Jr. *Modern Lithography*, Vol. 26, No. 6, June 1958, pages 58-59, 62-64, 122-124, 8 pages. Discussion of color separation. Terms used are defined (Density, Opacity, Density Range). Profusely illustrated.

MASKING, COLOR SEPARATION. CHAPTER 6. John M. Lupo, Jr. *Modern Lithography*, Vol. 26, No. 10, October 1958, pages 46-49, 137, 155, 6 pages. General discussion of procedure for masking separation negatives. Method of obtaining time-gamma curves for mask film outlined. Mentions black printer and under-color removal.

Planographic Printing Processes

THE NICOHOL TREATMENT. Anon. *LTF Research Progress* No. 43, May 1959. 30c LTF Members; $1.00 Non-Members. This simple new platemaking step eliminates a major cause of blind deep-etch plates. Certain previously unexplained causes of too early blinding of copperized deep-etch aluminum plates were traced to deep etching solutions which deposited amorphous metallic iron which forms a deposit in the image areas. The copper does not adhere well to this deposit. Efforts to find a material to remove this deposit without harmful side effects resulted in the Nicohol solution which is 10% concentrated nitric acid in cellosolve solvent. Complete directions for the treatment are given. Illustrations show the result of press tests which shows a remarkable resistance to blinding on the press. The regular use of "Nicohol" should improve the average life of deep-etch plates.

GRAINING OF ZINC PLATES. U. S. Patent 2,860,039, 41/32, 4/4/55-11/11/58. P. H. Margulies and H. E. Winters to Food Machinery and Chemical Corporation. *Ansco Abstracts*, Vol. 19, No. 4, April 1959, page 183. To render the non-image areas of zinc offset plates hydrophilic the degreased cold rolled sheets are grained by immersion for

.5-15' in a 1-2 percent sulfuric or 3-5 percent phosphoric acid solution containing 1-10 percent of 100 percent hydrogen peroxide.

THE LEVEY BI-METAL PLATE. William R. Murray. *National Lithographer*, Vol. 66, No. 5, May 1959, Metal Decorating Section, pp. 65-6, 2 pages. This plate is manufactured under license under Aller patents. A research program evaluated materials and processes for making the plate and plate-making chemicals. The growth of its use largely resulted from acceptance by the metal decorating industry. It is also used in web offset. Brief step-by-step processing instructions are given.

Paper and Ink

HANDLING PAPER IN THE PRESSROOM. Anon. *LTF Research Progress* No. 44, June 1959. $1.00—Non-Members; $.30 LTF Members. Can be used as a wall chart. Specific directions are given for handling paper in the pressroom to get the best results in printing. For temperature conditioning paper brought in from storage at a different temperature than the pressroom, a table gives the time necessary for the paper to reach pressroom temperature based on the volume of the paper and the temperature difference to be adjusted. A new procedure for the use of the LTF Paper Hygroscope (Sword Hygrometer) is described and the resulting readings are interpreted into a guide table for decision giving recommendations based on the hygroscope reading and the nature of the printing to be done. A method for protecting paper from humidity variations between runs is described.

THE FATE OF INK ON AN OFFSET PRESS. Dr. W. H. Banks. *British Ink Maker*, Vol. 1, No. 1, Nov. 1958, pp. 39, 43, 2 pages. In lithographic printing, a number of defects result because the ink and water are spread as thin films over rollers which roll against each other, conditions which are favorable for their interaction. The five main defects resulting from this interaction are discussed. They are: 1. Weak prints due to impaired transfer. 2. Retarded drying of inks. 3. Tinting. 4. Fouling of the damping rollers. 5. Piling of ink on the distributors. 2 references.

ARE YOU BLOWING WATER ONTO YOUR PAPER? Robert W. Wassmer. *Graphic Arts Monthly*, Vol. 31, No. 5, May 1959, pp. 42, 44, 46, 3 pages. Author points out that the use of compressed air can add appreciable amounts of moisture to the paper it is used to feed or control. A chart is given for the determination of the moisture content of compressed air. At the Kurt H. Volk plant an aftercooler on the compressor removed 90 percent of this moisture content making possible the use of compressed air in a number of sheet handling and controlling situations without trouble with moisture condensation.

Lithography—General

ELIMINATING GUM STREAKS. Edward Kidby. *National Lithographer* 66, No. 1, January 1959, pp. 14, 66 (2 pages). Recommended procedure for the prevention of gum streaks on plates which are to be saved for re-runs is to first dust the plate with resin powder. Then gum the plate twice with a not too heavy gum, going over the plate fast the first time and slowly in a circular motion the second. After the gum is dry it should be washed out under asphaltum. If a plate has gum streaks, they may be removed by going over the gum streaks on a dampened plate with a mixture of equal parts of carbolic acid and asphaltum. A cotton swab may be used for application. A rubber glove should be worn. The area covered should be washed with water, inked up with the ink from the press and cleaned up with a damp sponge. The treated area should then be regummed.

'REVOLUTIONARY' DAMPENING SYSTEM. Harold Gegenheimer. *Printing Magazine*, Vol. 83, No. 6, June 1959, pp 68-9, 2 pages.

WHAT IS THE DAHLGREN DAMPENER? Harold W. Gegenheimer. *Modern Lithography*, Vol. 27, No. 6, June 1959, pp. 32-3, 143, 145, 4 pages. Both are from a talk given at the Carnegie Institute of Technology alumni seminar in training management, Pittsburgh, April 18, 1959. The MODERN LITHOGRAPHY article is more complete and has more diagrams.

A description of the Dahlgren dampener system for litho presses with diagrams showing the two stages of its development. In the first stage, the standard arrangement of fountain, ductor and vibrator rollers is used, but the water travels to a specially plated metal roller in contact with the soft rubber first ink form roller where the water is carried to the plate surface on the surface of the ink without passing through any nips. Thirty presses are now in use with this system, also a two-color 22x34" press at the LTF laboratory. The second system is simpler, using only a fountain roller and the metal roller which transfers the water to the ink form roller as before. Water control is in the speed of these two rollers which are driven independently of the press. The advantages of the two systems are listed.

WATCH THOSE PRESSURE POINTS. G. E. Webb. *Printing Magazine*, Vol. 82, No. 3, March 1958, pages 78-80, 3 pages. The mechanics of offset blanket creep and slip which lead to plate wear and distortion of image is explained. Correct pressure adjustment and parallelism of rolls are emphasized. An analogy in which blanket deformation is compared to the hydrodynamic properties of a liquid is developed and illustrated.

STEP-AND-REPEAT MACHINE. S. T. Shaw. *Modern Lithographer and Offset Printer*, Vol. 54, No. 8, August 1958, pages 18-21, 4 pages. S. T. Shaw discusses the invaluable functions of the step-and-repeat machine in producing intricate repeat designs. Designs described and illustrated include square repeat, half repeat, all over design, all over continuous design, diaper, chequering, spring, counter-change, plaid, bands, lines, stripes, spotting and powdering and drop design.

ELIMINATING GEAR STREAKS IN PRINTING. Charles W. Latham. *Printing Production*, Vol. 89, No. 8, May 1959, p. 22, 1 page. So called "gear streaks" on lithographic printing are not necessarily caused by gears. Other causes which can contribute to streaking are given: bearer adjustment, gloss coated paper, flat tints above 50 percent, grainless plates, soupy inks. Suggestions are given on cylinder packing to control streaks.

WEB PRESS PROSPECTS FOR OFFSET. Adam Henri Reiser. *Printing Production*, Vol. 89, No. 8, May 1959, pp. 39, 86, 2 pages. A brief discussion of the capabilities of the multi-color web-offset press. In comparison with a large sheet-fed press, the web press is going more quickly with its small plates, and its high speed provides a quick lead in production. Paper stocks which work well and those giving trouble are listed.

CONTROL AND DISTRIBUTION OF WATER. Edward Kidby. *National Lithographer*, Vol. 66, No. 5, May 1959, p. 46, 1 page. Specific working tips on getting and keeping the water under control for proper ink-water balance.

PRESSMEN—KNOW YOUR PLATES. Matt. Schillen. *National Lithographer*, Vol. 66, No. 3, May 1959, pp. 22, 84, 86, 3 pages. An approach to the problem of scumming and blinding from the standpoint of whether the image is above the surface of the metal or below, and how much surface friction the plate will stand. Specific tips are given on how to remedy scumming and blinding.

AUTOMATIC ARC CONTROLS. Charles A. Pirolo. *National Lithographer*, Vol. 66, No. 3, March 1959, pages 16, 18, 93, 3 pages. Manual and automatic arc controls are compared. Manual control is suitable for low production only. Two forms of automatic control are shown in schematic and wiring diagrams and their operation explained.

TROUBLE SHOOTING THE ARCS. CONCLUSION. Charles A. Pirolo. *National Lithographer*, Vol. 66, No. 5, May 1959, pp. 16, 17, 18, 118, 4 pages. Typical arc light circuits are shown and the action of one illustrated pictorially. Two trouble shooting charts (Trouble—Cause-Remedy) supplement the specific tips given on various components of the equipment.

IMPROVED PUSH BUTTON CONTROLS ARE AMONG FACTORS AFFECTING PRESSROOM SAFETY. Roy P. Tyler. *The American Pressman*, Vol. 69, No. 5, May 1959, pp. 29-31, 3 pages. The new control system, developed jointly by Harris-Seybold and Cutler-Hammer, depends on the simultaneous pushing of two adjacent buttons by two fingers of one hand to cause continuous operation of the press to start. Pushing either button alone causes inching only. A wiring diagram is given for the installation of the two-finger run safety control.

ACCURACY IMPROVED IN NEW OFFSET PRESS PACKING GAUGE. Anon. *The American Pressman*, Vol. 69, No. 5, May 1959, pp. 27-8, 2 pages. The importance of accurate blanket and packing measurement is emphasized and previous methods described

(*Continued on Page* 125)

LITHO CLUB NEWS

Twin City

Equipment Trends Discussed

"Trends in Printing Equipment" was the point of discussion at the September meeting of the Twin City Litho Club held at the Normandy Village in Minneapolis. Richard Helmig, manager, Cleveland division of the Harris-Seybold Co., was the speaker. Mr. Helmig is a member of the American Management Association and the Cleveland Engineering Society.

The club reports that Leonard Holzinger, its president, Herman Goebel and Bernard Skomars will soon travel to Boston to assist with preparations for the 1960 NALC convention.

The club also presented $600 to NALC and $300 to the Boston Litho Club at the NALC booth at the Graphic Arts Exposition. The money represents the balance after expenses from the NALC convention held in the Twin Cities in June.

Cincinnati

Candidates to Be Named

Candidates for 1960 officers of the Cincinnati Litho Club will be announced by president Thomas Lacker, Advance Decalcomania Co., at the monthly dinner meeting Oct. 13 in Guidara's Restaurant. The new officers will be elected at the December meeting, and installed in January.

At the October meeting, a representative of the Harris-Seybold Co. will give an illustrated talk on Platemaking.

The club opened its fall season on Sept. 8 with a closed meeting at the Royal Chef restaurant in Covington, Ky., when plans for the winter season were discussed.

Following the business session, the informative motion picture, "The Color Plate Story" was shown by Buford Payne of Tri-State Offset Co., the club's educational chairman. The film was provided by Mueller Color Plate Co., Milwaukee.

Baltimore

Discuss Color Lighting

The problem of achieving high quality color by proper lighting was the main topic at the September meeting of the Baltimore Litho Club. Robert E. Rossell, managing director of the R. & E. Council, presented a talk on the problem and its solutions.

New members of the club are C. Edward Noll, Anthony Skett, Walter R. Urie and Robert Filie.

Cleveland

Art and Production Clinic

An art and production clinic, presented by Jean Bourges, president of the Bourges Color Corp., entitled "Creating for the Printed Page," was the feature at the Sept. 24 meeting of the Cleveland Litho Club at the Cleveland Engineering and Scientific Center.

The clinic covered such production aspects as working with transparent layers of color; line, halftone and dropout; retouching shortcuts and the pros and cons of color separation copy.

The club reports a complete success of its annual stag picnic in June. New members are Andrew Kovach and Ralph McKinley.

Washington

View Color Film

"This Is Color," a motion picture covering the broad aspects of color and the technical factors in color

Litho Club Secretaries

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BALTIMORE
Robert Press

BOSTON
Vincent Aliberte, 2010 Revere Beach Pkway, Everett

BUFFALO
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Fort Wayne — Butler Paper Company
Indianapolis — Century Paper Company
Indianapolis — C. P. Lesh Paper Co.
Terre Haute — Mid-States Paper Company, Inc.

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Des Moines — Pratt Paper Company
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New York — The Whitaker Paper Co.
Rochester — The Alling & Cory Company
Syracuse — The Alling & Cory Company
Utica — The Alling & Cory Company

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Raleigh — Epes-Fitzgerald Paper Co.
Raleigh — The Raleigh Paper Co.

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Fargo — Western Newspaper Union

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Akron — The Union Paper & Twine Co.
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Cincinnati — The Whitaker Paper Co.
Cleveland — The Central Ohio Paper Co.
Cleveland — The Union Paper & Twine Co.
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reproduction, was presented at the September meeting of the Washington Litho Club. The film was produced by the Interchemical Corp. It describes the many aspects involved in color and its reproduction.

Paul Whyzmuzis, of Printing Ink Division of Interchemical, was on hand at the meeting to answer questions and attempt to solve individual color problems.

Fort Worth

Set Future Program

At a recent meeting of the Fort Worth Litho Club, the membership discussed suggestions for the educational program for the forthcoming year.

The annual picnic was reported a success by the entertainment committee.

Dayton

Shands Talks on Masking

Frederick L. Shands presented a slide illustrated talk on "Color Separation and Masking" at the September meeting of the Dayton Litho Club. Mr. Shands is technical representative for the Dupont Photoproducts Department.

The club will be host to the 1961 NALC convention to be held May 5 and 6. Theme of the convention, which will take place at the Dayton Biltmore, will be "The Home of Aviation."

The convention committee includes Leonard Starkey, general chairman; Harold Baldwin, finance chairman and treasurer; Kenneth Brockway, secretary; John Sowers, publicity; Robert Hull, arrangements; Frederick Feldman, registration; Carl Cook, education; and Mrs. Starkey, ladies activities.

Buffalo

Visit Steel Plant

The Buffalo Litho Club toured the Buffalo Steel Corp. plant as the feature of its September meeting. The members watched the manufacture of rolled steel products such as reinforcing bars, merchants bars and sign posts.

Detroit

Council President Speaks

Mary V. Beck, president of the Common Council of the City of Detroit, was the honored speaker at the Sept. 10 meeting of the Detroit Litho Club. She is noted for her work on the prevention of juvenile delinquency.

Houston

Hear Bindery Men

A recent meeting of the Houston Litho Club heard a talk on the preparation of copy and materials for bindery, by Army Emmott and Richard Richardson. They demonstrated right and wrong ways of preparing material for the bindery.

Attention was called to a membership drive, with a free dinner to be awarded each month to the member submitting the most applications for membership.

New members include William Kenvin, Joseph Vento, C. H. Alexander and Janet Kenvin.

Philadelphia

'New Look In Graphic Arts'

The "New Look In the Graphic Arts Industry" was the topic of a talk by John T. Porter, of ATF, at the opening meeting of the Philadelphia Litho Club late last month. Mr. Porter, sales manager for the general printing equipment division, addressed the group in the Poor Richard Club Sept. 28.

For its October meeting, the club has scheduled a discussion of tone control in platemaking by Albert Materazzi, of Litho Chemical & Supply Co.

Mr. Porter traced the evolution of the printing and lithographing processes, citing highlights from 1450, the use of movable type for printing, to the present day, when web-offset, photocomposition and wrap-around plastic plates are most noteworthy developments. Then he made some predictions for the future.

"No industry or company can yield the same profit indefinitely without revitalization of its equipment," he declared. "There are about 35,000 offset presses size 22 x 34" and smaller in commercial plants in the U. S.," he estimated, "and 22,000 of them were built prior to World War II. That means they are 16 or more years older and obsolete by the standards of today's equipment."

Flat-bed letterpress has gone just about as far as it can go, he observed, and must yield to rotary equipment, probably with some type of wrap-around plate. In offset, the trend is toward web-fed equipment. One web-offset perfecting press, with several color units, can easily out produce several large sheet-fed presses, he said.

"Web-offset is the nearest thing to automation in the graphic arts," in the opinion of Mr. Porter. He described the versatility of the printing units, the various types of cutting and folding which can be accomplished at the end of the press and the fast speeds of the web units.

The speaker drew upon references to equipment displayed at the Graphic Arts Exposition to support his points, and illustrated many of his statements with typical press sheets.

No matter what the process, he concluded, whether it be letterpress, offset or gravure, "the emphasis now and in the future will be on photochemical techniques."

The club members enjoyed the "Fall Frolic" at Eddington Farms, a week before the opening meeting. Tentatively planned for the future is a trip to the Government Printing Office in Washington, D. C.

Two busloads of members traveled to New York last month to tour the Exposition. Nominations for officers will be made at the October meeting.

Chicago

Consider Metal Decorating

The Chicago Litho Club opened its fall educational program by considering "The Past, Present and Future of Metal Decorating." Guest speaker of the meeting, held Sept. 24, was Harold W. Lee, director of lithography for the J. L. Clark Mfg. Co., Rockford, Ill.

Mr. Lee emphasized the past and the future of the process. He illustrated his talk with a number of old metal decorating samples. He forecast an expansion of the process into many new fields.

The club reports 370 members to start the year.

St. Louis

Annual Election Planned

Harold Rohne, program chairman of St. Louis Club, has announced that the election of new officers will take place at the November meeting of the club to be held at the Ambassador Kings Hotel.

Frank Gray of the Vari-Typer Co., will be guest speaker at the October meeting. His topic will be "The Paradox of Vari-Type."

The club is planning an offset clinic on camera work.

Shreveport

Barbeque Held

The Shreveport Litho Club reports a highly successful Bar-B-Que was held at Bistineau State Park, Sept. 19.

The club also reports the following new members: Carroll H. Jones, M. B. Young and J. D. Stinson.

Navigators To Hear Shapiro

Charles Shapiro, educational director of the Lithographic Technical Foundation will give a talk on "Paper in the Pressroom," to the Navigators, a New York association for the advancement of the graphic arts, on Oct. 9. Among the points to be discussed will be the handling and conditioning of paper before it is printed.

On Nov. 13, Roy B. Barnes, Jr., of DuPont will speak on the use of color and colored paper. This will be an illustrated talk based on a survey of advertising agencies, art studios and printing concerns producing creative printed matter.

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John Schmaelzle Dies

John Schmaelzle, 79, founder and former president of the Loose Leaf Press, Milwaukee, died of a heart ailment late in August.

Mr. Schmaelzle founded the printing and lithography firm in 1917.

Bank Stationers Discuss Magnetic Printing

THE two-day fall meeting of the Bank Stationers' Section of the Lithographers and Printers National Association attracted an overflow group of 145 manufacturers and suppliers from all parts of the country, Sept. 7-8.

The conference, which coincided with the 7th Educational Graphic Arts Exposition, was held at the Warwick Hotel in New York under the chairmanship of Edward A. Robinson, general manager, The J. C. Hall Co., Pawtucket, R. I.

The section heard reports on recent developments during several panel discussions.

A report on "Check Evaluating Systems" was offered by E. D. Spina, IBM Corp., Poughkeepsie, N. Y., and on application of statistical quality control to check encoding, by Donald R. Macaulay, Chippauqua, N. Y.

Mr. Spina outlined a method for evaluating and upgrading checks produced under what is known as System "001." Twelve specifications in common language printing are used as a basis for rating batches of checks. He warned that no system could be foolproof, but this one is calculated to help determine the quality and readability of the mechanized checks.

The application of statistical principles has been going on in the graphic arts for 10 years, Mr. Macaulay said. He underlined the importance of statistical quality control in magnetic ink printing. He noted that bank stationers had isolated quality control developments by discovering the need for measurement and the use of instrumentation and by agreeing on terminology; and pursuing the search for tolerances.

Commending the bank stationers on their progress in controlling quality up to the present, Mr. Macaulay told them they must start thinking like engineers and urged them to set up and arrange a statistical section and to install, step-by-step, a program that would lead to greater quality control.

A lengthy report of the Printers' Advisory Committee to the American Bankers Assn. was given in two parts by a panel of the sub-committee's membership. Panel members included Joseph Rose, Deluxe Check Printers, St. Paul; George Littell, De-Luxe Check Printers, Clifton, N. J.; Clark R. Gregory, Jr., The Herald Printery, Louisville; and Richard R. Harwood, Young & Selden, Baltimore.

The committee reported on recommendations it had made to the ABA on relaxing tolerances in check mechanization and its plan for a standard evaluation system for encoded checks. An exhibit of the Friden Typewriter Equipment for encoding checks was displayed.

Finally, there was an extensive report on the progress of the Ledger and Statement Sheet program which has concerned the committee in recent months. Panel members included Wm. R. McKeighan, Saml. Dodsworth Printing & Stationery Co., Kansas City, Mo.; Thomas Sheridan, Jr., American Bank Stationery Co., Baltimore; Wm. Gildea, The Falconer Co., Baltimore, and LPNA executive director Oscar Whitehouse.

Is Your Equipment "Old Hat?"

Old machines may seem to be doing the work, but if you are finding it harder and harder to compete, they are "Old Hat." For newer machines are doing the job faster, better and more efficiently. Also, the differences in costs soon become known in the Sales Department. An important point?

If the above be the case, it is always a good idea to have Wagner Engineering look over your production facilities. You get the benefit of counsel earned in more than a half-century in the field. There is no obligation.

When thinking of Progress—think of Wagner!

WAGNER LITHO MACHINERY

Metal Decorating Machinery

555 Lincoln Avenue, Secaucus, N. J.

NS NATIONAL STANDARD Company Division

Metal Decorators Mark 25th Anniversary In Convention at New Orleans, Oct. 12-14

THE lure of New Orleans in the fall, a steamer tour of the harbor and a full program of technical reports should combine to make the 25th annual convention of the National Metal Decorators Association the biggest in the association's history.

NMDA is meeting Oct. 12-14 at the Roosevelt Hotel. Complete program for the three-day convention is shown on page 94.

One of the highlights of the meeting will be a buffet and afternoon sightseeing tour of the New Orleans harbor aboard the steamer "President," on Tuesday afternoon. Luncheon will start at 1 p.m. with sailing set for 2:30. A further attraction, according to the convention committee, is a quaint streetcar (not "Desire") that runs along Canal St. to the docks.

Boat Trip

The boat trip should give decorators a chance to relax from the Tuesday morning session, surely one of the busiest ever scheduled by the association. Three round tables will be in operation at the ballroom of the hotel, each discussing three separate topics at half hour intervals. Press plates, blankets, inks, coatings, rollers, steel and aluminum, presses, ovens and coaters are on the agenda, with discussion periods staggered to allow movement from one table to another.

Business Session

Monday morning has been set aside for a closed business meeting of NMDA members. On Monday afternoon and all day Wednesday, the group will hear addresses on a variety of topics: coil-fed coating processes, the ALA's views on technology, organic coating and the new food additives amendment, fume incineration and LTF research. Other talks, untitled at press-time, are to be given by James H. Pipkin, of Texaco, Inc., and by H. M. Taylor, of R. W. Crabtree & Sons Ltd. (England).

The suppliers group will be host at an evening entertainment on the opening evening, and the annual banquet, with humorous speaker, will climax the meeting Wednesday evening.

Harold W. Lee is president of NMDA. Neal D. Rader heads the convention committee and also will be master of ceremonies at the banquet. Other officers are W. A. Westphal, vice president; and J. G. Smith, secretary-treasurer.

Caspers Earnings Up

Caspers Tin Plate Company last month reported net earnings of $160,908 after taxes in the six months ended June 30, compared with $2,611 in the first half of 1958. The earnings were equal to 43 cents a share on 371,131 capital shares outstanding, as against one cent a year ago.

Net sales totaled $12,273,737 as against $9,514,080. Before-tax earnings were $334,908 compared with $5,111.

"Sales volume for all Caspers' companies continues to hold up well and operations are expected to continue on a profitable basis at least through the third quarter," said B. W. Bennett, chairman, and Earl E. Gray, president, in their joint report to shareholders.

•

Aluminum Plates On Rise

Use of aluminum for lithographic printing plates is on the rise, according to Aluminum Company of America, Pittsburgh.

A recent survey indicated that 79 percent of lithographers responding to questionnaires use aluminum plates for more than half of their year's lithographic business, the company reported.

NMDA Program

Monday, Oct. 12

9:00 a.m. Registration Mezzanine floor of Roosevelt Hotel. Members will be registered until 10 a.m, non-members until Noon.

10:00 a.m. Members Only. Address of welcome and association business.

12:30 p.m. Luncheon for members and suppliers. Blue Room.

2:00 p.m. General session in the Grand Ballroom.
Address by *James H. Pipkin,* vice president, Texaco, Inc. "Recent Developments in Coil-Fed Coating Processes," *Anthony W. Pomper,* John Waldron Corp., and *Allen S. Dawe,* J. O. Ross Engineering, Division of Midland-Ross Corp.
"ALA's Views on Technology," *Edward Swayduck,* president, Local No. 1, Amalgamated Lithographers of America.

6:30 p.m. Evening entertainment, sponsored by Metal Decorating Suppliers Guild.

Tuesday, Oct. 13

10:00 a.m. Round Table Clinic. Grand Ballroom.
TABLE 1: 10 a.m.—Press Plates. 10:30—Blankets. 11—Inks.
TABLE 2: 10:15—Coatings. 10:45—Rollers. 11:15—Steel and aluminum.
TABLE 3: 11:30—Presses. Noon—Ovens. 12:30—Coaters. (Two men will be on hand to handle questions at each session, usually a decorator and a supplier).

1:00 p.m. Buffet on board the steamer "President" at Canal St. Dock. Ladies invited. Harbor trip 2:30 — 5 aboard the steamer.

Wednesday, Oct. 14

10:00 a.m. General Session, Grand Ballroom.
"Organic Coating and the New Food Additives Amendment," *Dr. M. A. Glaser,* Midland Industrial Finishes Co.
"Gas-Fired Litho Ovens and Fume Incineration," *Lowell F. Crouse,* Maxon Premix Burner Co.

12:30 p.m. Luncheon for members and suppliers, Blue Room.

2:30 p.m. General session, Grand Ballroom.
Address by *H. M. Taylor,* R. W. Crabtree & Sons, Ltd., England.
"Research Report," *Michael H. Bruno,* LTF.

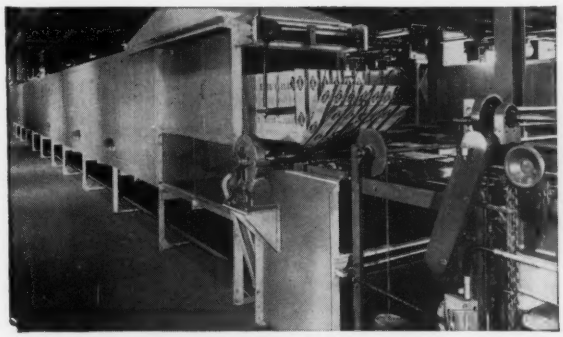
6:30 p.m. Cocktails, followed by annual dinner at 8 in the Grand Ballroom. Master of ceremonies, Neal D. Rader. Speaker, *Dr. Carl C. Byers,* "He Who Laughs—Lasts."

there's "something special" about every

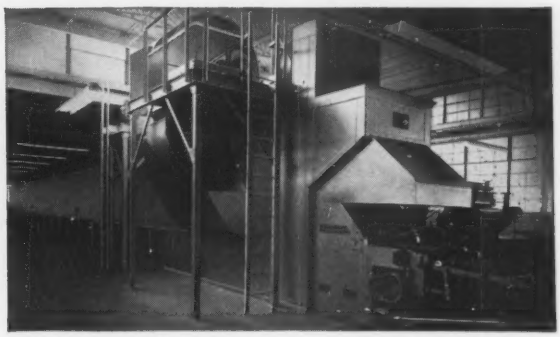
YOUNG BROTHERS METAL DECORATING OVEN

it's engineered to meet individual production requirements for **SPEED, QUALITY, ECONOMY**

Battery of large, high speed D. E. F. Metal Decorating Ovens



D. I. F. Metal Decorating Oven with zone control and recuperative cooling



High speed, combination D. E. F. and D. I. F. Metal Decorating Oven

A metal decorating oven is a highly mechanized production unit in a specialized field — and it will only perform at maximum efficiency in your plant if it has been engineered and built by men well versed in every phase of oven engineering.

In Young Brothers Metal Decorating Ovens you get the experienced engineering and precision operation which are vital in producing high speed, high quality metal decorating. Young Brothers "know-how", based on 60 years of building individually designed ovens for all baking and drying processes, combined with a thorough knowledge of the Metal Decorating Industry is your assurance of better finished products at lower cost.

A wide variety of basic sizes and types of Young Brothers Metal Decorating Ovens are available to meet your specific requirements. Investigate what their advantages can mean to you — details are available without obligation. Write today!

YOUNG BROTHERS COMPANY

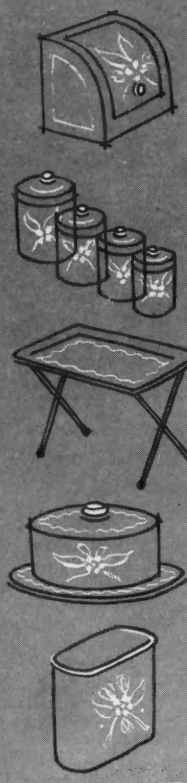
1839 COLUMBUS ROAD CLEVELAND 13, OHIO

ESTABLISHED YB CO 1896

You asked for it; Here it is..... an AMAZING, NEW

FLAT VARNISH

for the Metal Decorating Industry!



It's a baking varnish, smooth and highly resistant to scratching and smudging. You'll find it meets ALL of YOUR other requirements, too. Briefly, it's what the metal roller coating industry has been looking for . . . for 30 years.

Field-tested to PROVE all of these features found in no other product.

- **Flatness in any range from 0 to 75**
- **Applies perfectly over wet ink**
- **Leaves no ridges—no stearate lines—no silk lines**
- **Has uniform gloss**
- **No settling**
- **Excellent fabrication qualities**

May we have a representative call and tell you more about this revolutionary, new product which is the result of extensive investigation and research in our Research and Development labs. Call or write.

LILLY VARNISH COMPANY • Indianapolis, Indiana

AFFILIATED PLANTS / LILLY VARNISH OF MASSACHUSETTS, GARDNER, MASS.
THE LILLY COMPANY, HIGH POINT, N. CAROLINA
PRODUCTOS AUROLIN, S. A., MEXICO CITY

Or - you can get the complete story at the

NMDA

Annual Meeting

in New Orleans—October 12-14

Look up the LILLY representatives at the Roosevelt. Panels and possibly some products will be on display. Contact either Frank A. Strueber, who heads the Litho Sales Division, or Henry A. Bates who heads the Technical Group at LILLY VARNISH CO.

Steel or Aluminum?

Steel or aluminum sheets for metal decorating? There has been quite an increase of interest in the latter, of recent years, particularly for beer cans. NMDA will explore the topic as one of its Round Table subjects at the annual convention in New Orleans.

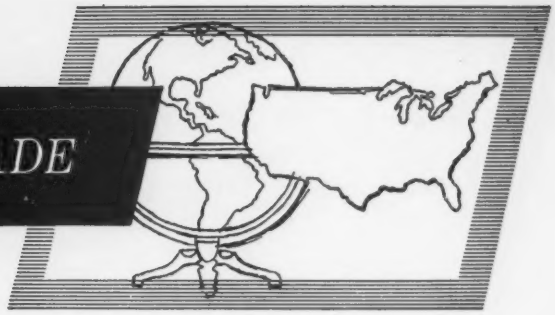
Offers Printer's Insurance

Printing Industry of Illinois has developed a unique blanket property damage insurance program which has been made available to members throughout Illinois. John H. Goessele, Jr., president of the association, said member printers may select both the amount of coverage, the items they wish to have covered and the amount of premium to be paid on either a three-year, annual, semi-annual, quarterly or monthly basis. This one feature, he said, is a forward step for printers whose inventory and storage of customers' property changes periodically.

In addition to the insurance contract with a major casualty company, arrangements have been made with a national insurance administrative firm, which will provide engineering counseling service without additional cost above the extremely low group premium rate.

The insurance program, Mr. Goessele asserted, "is another example of the constant effort this state-wide Illinois printers' organization is making to provide more and valuable services to its member firms."

NEWS about the TRADE



McGill Graphic Arts Center Completed

Completion of the modern McGill Graphic Arts Center, located at 665 North Fairview Ave. in the midway district between Minneapolis and St. Paul, has been announced by firm officials.

Housed in a one-story building of concrete block and steel construction, 660 feet long and 240 feet wide, the center contains complete departments in linotype and monotype composition, letterpress printing, offset lithography and bindery.

The building combines the production facilities of the separate printing divisions of the company, including the McGill Co., McGill-Warner Co., Syndicate Printing Co., and Controlforms Corp.

The plant is geared to produce commercial printing, publications, labels, catalogs, magazines, books, stationery, advertising brochures, point of purchase displays, and is presently engaged in developing new ideas in printed plastic and aluminum foil promotional literature.

McGill's organization comprises complete type composition facilities together with a modern lithograph art, camera and transfer department. The litho press department is equipped with lithograph presses ranging from 28″ single color units to huge 78″, four-color machines. The center has a total of 19 lithograph units.

The building itself is designed to handle production flow in a modified "U" pattern with all material entering and all finished products leaving from a dock area adjacent to the bindery and the shipping departments. A ceiling height of 20 feet provides numerous mezzanine areas for offices, rest rooms, storage and filing rooms, and space for the air-conditioning equipment.

Temperature and humidity control is provided throughout the building.

ALA Nominates Brown

Kenneth J. Brown, a 35-year-old Canadian, was nominated for international president of the Amalgamated Lithographers of America during the union convention in Portland, Ore., Sept. 14-18. Mr. Brown's nomination will be submitted to a referendum vote. The convention delegates also unanimously nominated Donald W. Stone for a second term as secretary-treasurer.

They heard an invitation from the president of ITU to merge the two organizations.

Mr. Brown's nomination concluded the union's 77th Anniversary convention, attended by more than 200 delegates in the Multnomah Hotel. He would succeed Francis P. Slater, who had announced his retirement to the convention. Mr. Brown would be the youngest president of ALA, and one of the youngest men to head an international labor organization.

He is now serving as international councillor and administrative assistant to the international president.

The merger invitation came from Elmer Brown, president of the International Typographical Union. Mr. Brown told ALA delegates, "I am prepared to say the ITU is willing to merge completely and fully on a basis of dignity and respect for each other's convictions." Mr. Brown added, "If that is not possible, let us find some basis to join hands and work together fully and completely."

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Federal Buys Sweeney

Federal Paper Board Co., Inc., a large folding carton company, has purchased the Sweeney Lithograph, Inc., Belleville, N. J. Sweeney, established more than 50 years ago, is well known for its lithographing of cartons, point-of-sale displays and labels. William H. Glover, Jr., president of Sweeney, will continue to direct the Belleville operation for Federal. His father, Harvey, long associated with the firm, is retired.

Federal did not disclose the purchase price. The company produces folding cartons, paperboard, glassware and corrugated containers.

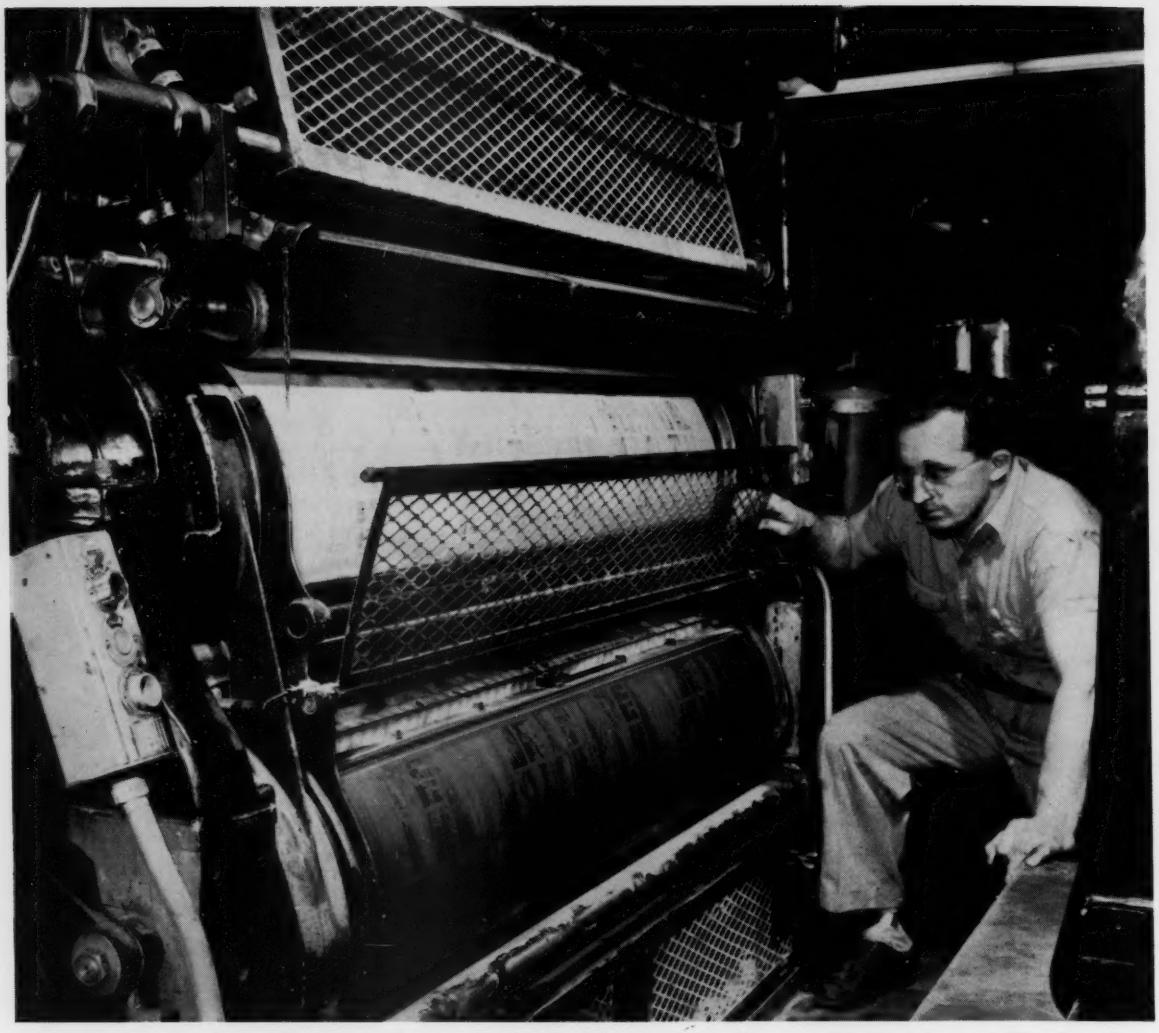
•

Majestic Appoints Schmidt

Thomas J. Schmidt

Thomas J. Schmidt has been appointed to the New York sales staff of Majestic Press, Philadelphia.

Mr. Schmidt's previous experience in the printing business dates back to 1935, when he joined Cuneo Press, Inc., Philadelphia. He joined Cuneo's sales staff in 1951 and handled the New York territory from 1952 until his present association with Majestic.



Four and six-color offset printing on foil a tough job? "Well," says Press Foreman Ed Nauheimer of The Case-Hoyt Corporation, Rochester, New York, "it's much easier since we started using a Reeves Vulcan Duroflex blanket!"

Smooth, skip-free, completely inked printing on aluminum foil —*thanks to a Reeves Vulcan blanket!*

THE PRINTING PROBLEMS

Volatile, fast-drying inks necessary for printing on foil were apt to swell the surface of a soft offset blanket at the point where the type is transferred.

Hard blankets, on the other hand, tended to lose detail in the transfer of the image leaving visible *pores* of uninked surface. Coarseness in blanket surfaces also tended to lose detail.

HOW THE PROBLEMS WERE SOLVED

After subjecting several blankets to a 4-color press, toughest job in the house, Case-Hoyt Corp. chose the medium black Reeves Vulcan Duroflex (Style 3B). Because of its special rubber composition, this Duroflex blanket is hard enough not to swell...yet resilient enough not to emboss the surface. And each blanket lasts for several million impressions.

Case Hoyt has made the difficult job of lithographing foil much easier, with the medium black Reeves Vulcan Duroflex Offset Blanket (Style 3B). Solve your printing problems with a Reeves Vulcan Blanket, too.

Another

REEVES VULCAN

RUBBER PRODUCT

Reeves Brothers, Inc., Vulcan Rubber Products Div.
1071 Avenue of the Americas, New York 18, N. Y.

CLI Opens Fall Semester

The Chicago Lithographic Institute started its fall semester Sept. 14 with an enrollment of 228 students. The school staff this year includes one new full time instructor, according to James K. Martin, general manager. Eugene Bulinski replaces Edward Ricklefs as supervisor of stripping and platemaking courses. He comes to the school from Runkle-Thompson-Kovats, Inc., where he had been in charge of camera, stripping and platemaking for over four years. Mr. Ricklefs has taken a position with a commercial litho firm.

•

Potomac Enters Offset

Potomac Electrotype Co., Philadelphia, has announced the purchase of Kenneth Hassrick & Co. in that city, makers of black and white and multicolor offset plates and negatives. The Hassrick plant and personnel have been moved to 919 Walnut St., where Potomac has leased an additional floor.

Manufacturing will continue under Mr. Hassrick's personal supervision but service for the new offset plate department will clear through the central service desk already handling the order detail for Potomac.

•

Wins Direct Mail Award

For the second year in a row, the Lasky Company, offset and letterpress printers of Newark, N. J., has won an award from the Direct Mail Advertising Association for a mail advertising campaign promoting the company's creative and printing services.

The company's prize-winning campaign was one of 59 chosen from the thousands produced during the past year. The winning campaigns will be exhibited in many cities throughout the U.S. and Canada during the year.

•

Providence Adds Subsidiary

Providence Lithograph Co. has announced the formation of a new subsidiary to be known as Federated Lithographers-Printers, Inc. The address of the subsidiary will be 369 Prairie Ave. in Providence.

The decision to establish a subsidiary was based on the firm's continued broadening of activities in the commercial printing field and the desire to maintain a separate service organization for work in the religious printing field. Providence Lithograph will function as the service organization with all printing to be done through Federated.

Officers of Federated Lithographers-Printers, Inc. are Roger K. Richardson, president and treasurer; Harvey W. Burgher, executive vice president, and Milton E. Kingsley, vice president.

•

Install Offset Equipment

Lithographic printing equipment will be installed at the plant of The Houston Paper Co. at 4902 Gulf Freeway, Houston. Cost of new equipment to be included in the installation program will be approximately $200,000.

Melvin Maltz, manager of the folding carton division of the company, said it will be the first time that lithographic printing will be available to carton users in a South Texas plant.

•

Two Join ATF Sales

Daniel D. Brown has joined American Type Founders Co. as sales representative in Baltimore and surrounding areas in Maryland and Delaware.

William Van Luit has joined ATF as sales representative in Cleveland.

Kauffman Heads Crocker

S. S. Kauffman

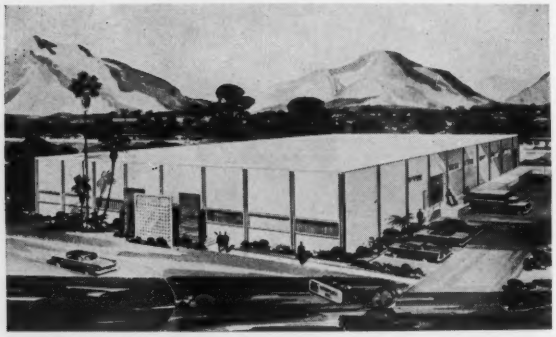
Richard Kauffman

Richard N. Kauffman has been named president of H. S. Crocker Co., Inc., San Francisco-based lithographic and letterpress printing firm. He succeeds his father, S. S. Kauffman, who headed a syndicate which purchased the 103-year-old company in 1919. The senior Kauffman becomes board chairman.

The new president of Crocker joined the firm shortly after graduation from Stanford in 1937, beginning in purchasing and estimating.

Extra duties, which developed from a personal hobby of color photography, included pioneering the company's Standard Oil Co. views of the West. Young Kauffman took the first photographs, in Oregon, and H. S. Crocker & Co. reproduced them, establishing its position in fine color lithography.

Lithoplate Building New Plant



Artist's drawing of the new Lithoplate building in Covina, Calif.

A new, 35,000 sq. ft. plant is being built for Lithoplate, Inc., a Harris-Intertype subsidiary, in Covina, Calif. The company expects to move into its new factory early in the fall.

The new plant will have more than twice the manufacturing area of the present factory in El Monte, Calif., will also provide added facilities for intensified research and product development programs. Plans call for installation of specially designed equipment for the manufacture of presensitized photo-offset plates and related products.

Lithoplate, Inc., was founded by Elmer Deal, its president, in Alhambra, Calif., in 1946, and became part of Harris-Intertype in January, 1956.

The company recently marketed a 59″ presensitized plate, largest on the market.

PII Open Courses

The Graphic Arts Institute of Chicago, newly reorganized educational service of Printing Industry of Illinois, has included three courses of interest to lithographers among the 12 subjects to be offered this year.

Beginning Sept. 21, a basic course in offset estimating was started with a lithographer, Casper Jawarski, of Rapid Copy Service, as instructor, assisted by a letterpress man, Art Blumenthal of The W. F. Hall Printing Co. Meeting once a week for 38 weeks, the class will cover fundamentals, from composition to binding.

Starting Nov. 19 and running through Feb. 25, Mr. Jawarski will conduct a 12-week advanced offset estimating course for qualified letterpress estimators who have completed the letterpress estimating course or who have served for at least a year as a plant estimator. Object of this course, the announcement explains, is "to convert letterpress estimators to offset estimating."

The third course, an "Introduction to Lithography," to be offered later in the year, has been arranged for small shop owners who have recently entered the lithographic field or who plan to do so in the near future. All the elements of effective and profitable plant management will be covered in seminar type sessions with lithographic technical men and representatives of equipment manufacturers as instructors.

Among the other courses is one on financial management, designed for plant owners interested in advanced cost accounting and budgeting. Other subjects include foreman management, typography, selling, paper selection and industrial engineering.

Daniel Coughlin, of the PII staff, said registration totaled 225 men.

Organization of the Illinois association's program into a formal Graphic Arts Institute has resulted in its recognition by the Veterans Administration and by the Office of Public Instruction of the state of Illinois.

•

NSC Plans Meeting

SOME sobering facts of life will be confronted by the National Safety Council's printing and publishing section at the annual meeting later this month in Chicago.

The annual frequency rate of disabling injuries in the printing industry, per million manhours worked in 1958 was 7.05. This marks a new high for the third successive year, it being 55 points worse than the 1957 rate of 6.50 and 102 points more than the 6.03 frequency rate in 1956.

Last year's 7.05 rate pushed printing and publishing down into 23rd place in the comparative ranking of 40 industries, on which the National Safety Council keeps annual records. In 1957 the industry ranked 20th and it was in 18th place in 1956.

The industry's severity rate, figured in time charges per million manhours, showed some improvement, according to the Council computations. Last year it was 298, compared with 436 in 1957, but still well above the 181 severity rate of 1956. The new 1958 severity rate lifted the industry into 7th place from 14th in 1957 but still in the same spot occupied by printing and publishing three years ago in the 1956 comparative ranking of the 40 industries.

The frequency rate of 7.05 last year was five places below the 6.17 average of all industries. On the score of severity, however, the rate of 298 was well above the all-industry average of 744. Last year each disabling injury cost printers an average of 42 days of lost time, while the all-industry average was 171 lost time days.

What to do about the faltering safety record will be considered by the printing and publishing section at its meeting, Oct. 20, during the National Safety Congress in Chicago. Guest speaker at the annual banquet will be Walter McArdle, president of McArdle Printing Co., Washington, D. C., whose talk is entitled "Safety In the 60's."

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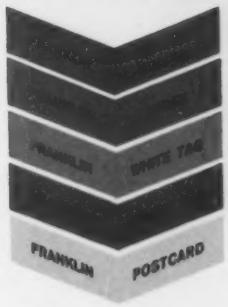
LPNA Exhibits Winners

Winners in the 1959 lithographic awards competition sponsored by the LPNA will be on exhibit in San Francisco Nov. 24. According to Robert Rodgers, of H. S. Crocker Co., chairman of the exhibit, it will be held at the Sheraton-Palace Hotel.

Schmidt Lithograph Co., Stecher-Traung Lithograph Corp., and A. Carlisle & Co. will be co-hosts. The show will be open to the public on its final day.

...AND AT THEIR BEST WHEN THEY ROLL INTO ACTION!

New "Franklin" fine papers dress up your printed pieces—make them snap to attention! See your local Union-Camp fine papers distributor for sizes, weights and samples of "Franklin"—the new fine paper that combines high strength with high style!



UNION-CAMP FINE PAPERS

UNION BAG-CAMP PAPER CORPORATION
Fine Paper Division, Franklin, Virginia

union camp®

This advertisement printed on Franklin White Tag. Basis 24 x 36—200M.

Choose Name for Merged Co.

Chicago's two large printing houses, Inland Press, Inc., and Magill-Weinsheimer Co., who announced a merger as of Aug. 1 under the name Mastercraft Corp., have decided to drop this name and retain their original names in the continuation of the new company. The merger was reported in Sept. MODERN LITHOGRAPHY.

Inland-Magill Weinsheimer Corp. is the name selected, Carl E. Dunnagan, president of the merged firms, announced last month.

"We are convinced," said Mr. Dunnagan, "that it is good business sense to keep the identity of our two printing houses intact in the corporate title of the new organization. After all, Magill-Weinsheimer has been in business for over 50 years and Inland Press dates from 1933.

"Frankly, we admit that it would be folly indeed and an error in judgment to divorce ourselves from the favorable corporate image already established and attempt to 'resell' a new name to prospective clients in today's competitive marketplace. Our new name, Inland-Magill Weinsheimer Corp., should have immediate identification."

Mr. Dunnagan has been active in the printing business since 1923, when he became a salesman for the Chicago Railway Printing Co. In 1933 he organized Inland Press, Inc.

•

Mazzaferri Buys Colorcraft

Joseph Mazzaferri has bought out the interests of his partners and now is sole owner of Colorcraft Lithoplate Co., Philadelphia.

Mr. Mazzaferri, well known to the trade for his work on the Research Committee of LTF and for frequent participation on technical panels, told ML he plans no changes in the trade platemaking operation except for an expanded sales organization, serving the New York and Philadelphia area.

His former partners, Stephen Rubenstein and Louis Ginsburg, have formed the Lithoplate Co., at the Southeast corner of 13th and Callowhill Sts., in Philadelphia. The shop is installing new equipment to handle black and white and color process jobs.

LPNA Awards Plans Set

Members present at a recent meeting of the LPNA Awards Promotion Committee are (clockwise around table from upper left) Fred S. Howard, B. D. Callahan, George P. Hughes, J. Louis Landenberger, Roger P. Nowak, Herbert Morse, Howard Minnich, Albert Gross, Oscar Whitehouse, George J. Walsh, Ralph D. Cole, Edward K. Whitmore, Douglas J. Scott, Alfred B. Rode and Gurdon Simmons.

The Lithographers and Printers National Association has announced approval by its board of directors of plans for the tenth anniversary Lithographic Awards Competition and Exhibit.

In the 1960 awards competition the total number of classifications for eligible material has been expanded to 51. The competition now provides greater recognition to reproduction by a combination of processes — having added combination books and greeting cards to point-of-purchase displays, decals and packaging material that were previously acceptable in combination with other processes.

Judging of the material, by a jury of 36, for lithographic quality, art and design and functional value will take place at the New York Trade School during the week of Jan. 25. Lithography produced between Jan. 1 and Dec. 31, 1959 will be eligible for judging. Material submitted by brokers is ineligible.

Deadline for the receipt of entries has been set for Jan. 18, but specimens may be submitted before that date. Entry fee is $5 for LPNA members and $10 for all other entrants, including non-member lithographers, advertisers, agencies and designers.

The announcement of the winners will be made on April 25, at the 55th LPNA Convention at Boca Raton Hotel and Club, Boca Raton, Fla.

RIT Plans Color Seminar

A seminar on "Color Control for the Graphic Industries" is to be held at the Rochester Institute of Technology Nov. 18-20. Topics under consideration will be fundamentals of color, color specification, illumination, color vision, instrumentation, inspection, and process control.

F. L. Wurzburg, of the Printing Ink Division, Interchemical Corp., New York, has been named technical adviser. The program is to be designed and coodinated by Warren Rhodes and Harold Kentner, both of RIT.

•

ATF Appoints Three

Three additional companies have been appointed to handle ATF parts and service. The appointments are part of an overall program by American Type Founders Co. to expand ATF equipment service and parts availability in areas not immediately accessible to ATF branches.

The three dealers include Repair & Maintenance Service, Washington, D.C.; Milwaukee Printing Machinery Co., Milwaukee; and Oklahoma Printers Supply, Oklahoma City.

•

Inland Advances Mehler

Inland Steel Container Co., Chicago, has announced election of Ralph G. Mehler as vice president in charge of operations of the steel container manufacturing and metal decorating division of Inland Steel Co. He succeeds Edward E. Grosscup, who resigned.

TECHNICAL HIGHLIGHTS

8,000 iph speed
pull or push side guides
motorized pile hoist — optional
delivery sheet control
delivery light — optional
electronic sheet detectors
pressure lubrication
tachometer
central 2-sheet choke
9″ x 12″ minimum sheet size
complete dampener range

NEW

Harris 23" x 29" single-color offset press. Just one glance tells you it's new. A check on features confirms it. Contact your Harris representative...or write us... for the whole story on the completely new LXB.

HARRIS • SEYBOLD • COMPANY

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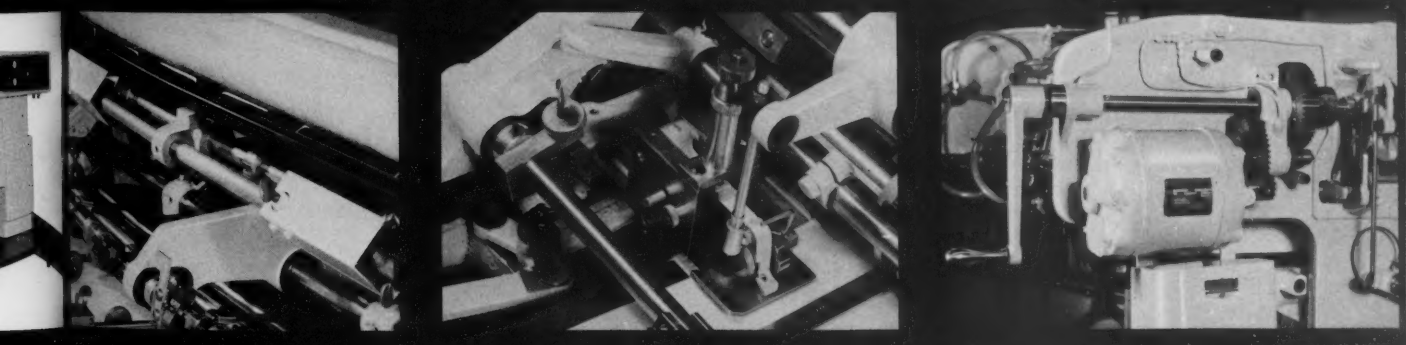


GAI to Award Three

The Education Council of the Graphic Arts will present awards this year to three local printing trade groups in recognition of outstanding industry-education cooperative programs in their communities. The awards are known as the James J. Rudisill Industry-Education Cooperation Awards.

Established in 1958, the Outstanding Award was made to the New York Employing Printers Association and two Achievement Awards were made to the Printing Industry Association of Dayton and the Apprenticeship Commission for the Printing Trades of Montreal.

This year the awards will be made to three new groups at the second annual awards banquet of the council at the Mayflower Hotel, Washington, D. C., Dec. 5.

The awards have been named in honor of the late James J. Rudisill (Rudisill and Co., Lancaster, Pa.) in recognition of his efforts over many years to achieve closer relationships between local groups of printers and the graphic arts education programs in the schools.

The awards will consist of a plaque presented to the group, the citations to the individual members of that group and to designated companies and individuals, not on the committee, who participated in the committee's work, that is, plants which arranged student tours and guest speakers at school career day programs.

•

Launch New Business Drive

Screen process printers have launched a drive for a larger share of the world's decalcomania manufacturing business.

To present their claims to buyers, the first of a planned series of educational booklets has been released by the Certified Decal Manufacturers, a group active within the Screen Process Printing Association, International, of Chicago. Entitled "Let's Talk Decals," the 12-page illustrated publication contains easy-to-read explanations of the various kinds of decals now being produced, with simplified definitions of terminology and suggestions to assist buyers in selecting the best type of decal for a particular job.

Produced Under Pressure

IT'S hard enough turning out a process color job in the relative calm and quiet of a litho shop. Last month, however, a pressman for Davidson Corp. tried, and succeeded, at such a task during the Graphic Arts Exposition in the Coliseum.

Gene Ragen, the pressman, added the blue to a process job that already had the first three colors. He used a Dual-Lith 251, a 10 x 14″ offset press.

When ML's reporter got to Mr. Ragen on Friday evening, he was understandably a little bit wilted from the battle. "It isn't just the visitors who climb all over me to see the Dual-Lith in action," he remarked, "it's this impossible humidity. In the morning everything is fine, but when the people start pouring in the humidity soars upward with them and I have to make frequent adjustments."

Mr. Ragen was turning out two separate jobs during the show, running at 5,100 i.p.h. at the time of our visit, with "surprisingly small" spoilage. Normally he's production manager for *Mercury* magazine.

With all the interruptions and adverse working conditions, Mr. Ragen was quite proud of his work, which readers may inspect for themselves on pages 81 and 82 in this issue.

•

Darby Awards Members

Darby Printing Co., Washington, D. C., recently held its annual Educational Activities and Services Awards Dinner for some 60 Darby employes who participated in the company's program of educational activities during the past year.

Public Printer Raymond Blattenberger addressed the gathering on the subject of educational opportunities in the graphic arts field.

Otis H. Johnson, Darby president, received a 25-year pin. Awards for five, 10 and 15 years of service with the company were also presented. Twenty-five year awards were also presented to William Giordano, Ralph Meinhardt, Henry Taylor and Charles Hayden.

•

Newspaper Turns to Web Offset

A changeover to offset is planned by the *Culpeper*, (Va.) *Star-Exponent* with the installation of a new Goss Suburban web offset newspaper press now on order.

The *Culpeper Star-Exponent* will be the main publication on the Suburban, according to Walter B. Potter, editor and publisher. "We will also print the *Madison County Eagle* and the *Greene County Record* on the press," he added.

Scheduled for delivery in 1960, the press will consist of three four-page units arranged inline, a combination half- and quarter-page folder with tabloid slitter and a four-position roll stand.

The initial installation is planned to produce a 12-page newspaper in black, or fewer pages with combinations of color.

The *Star-Exponent* plant has been operating both offset and letterpress in its commercial printing department. It will continue to use both hot and cold type for job printing, but plans to switch exclusively to cold type composition for newspaper work with the installation of the new press.

•

ALA Wins Election

Amalgamated Lithographers of America won an NLRB election at the National Press, Palo Alto, last month. Local 17 will represent 15 men working on various lithographic operations in the plant.

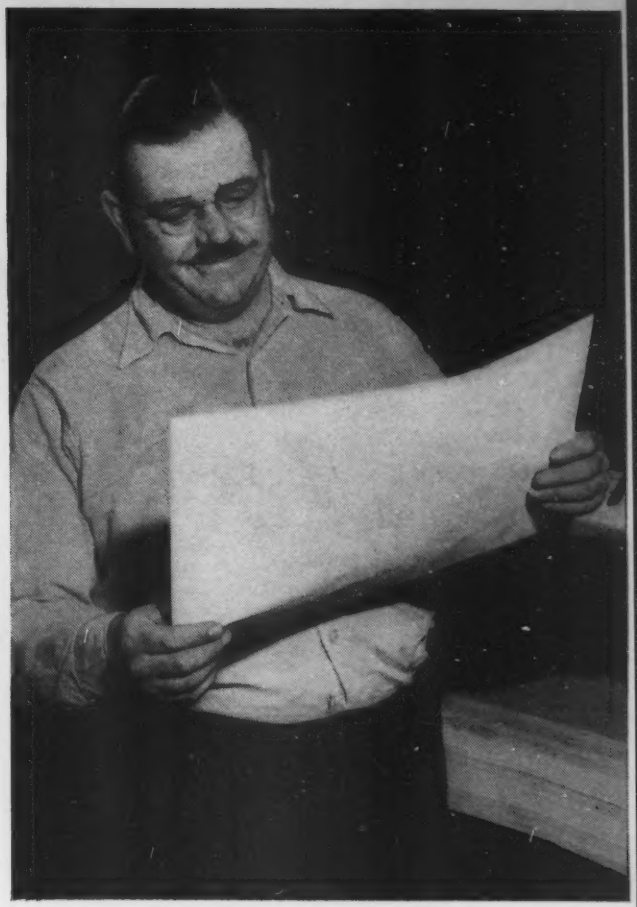
The contestant, which lost the election by 8 to 7, was San Mateo Printing Pressmen and Assistants Union.

NEW!

TRO-MARK

Easiest-working gummed papers you ever had!

by The Gummed Products Company



Here are adhesive papers with more production advantages than any you ever used before! TRO-MARK Adhesive Label Papers really stay flat in storage, on the press . . . before and after printing. TRO-MARK will not curl, even when under relative humidity as high as 70%. TRO-MARK feeds, prints, delivers, jogs, perforates and die-cuts just as if it had no adhesive at all!

With TRO-MARK on the job, you get an unrivalled combination of all the most-wanted time-saving, cost-cutting characteristics that make this the smoothest-running, best-printing adhesive stock for your every need. It's available NOW from your TRO-MARK Distributor.

LOOK AT THESE TOP ADVANTAGES OF TRO-MARK*

- **Better Printing Surface** because the adhesive is neither broken nor stack calendered. You get excellent reproduction using less ink than with other stocks.
- **Trouble-Free in Storage** TRO-MARK stays flat, will not curl or block under a wide range of temperature and humidity variations.
- **Allows Longer Press Runs** TRO-MARK stores beautifully after printing, allowing you to run larger quantities of labels without fear of in-storage spoilage.
- **More Perfect Sheets Per Hour** on all types of printing equipment because TRO-MARK stays flat even under multiple press run.

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The Gummed Products Company
Troy, Ohio • A Division of St. Regis Paper Company

Relief Plates Discussed

Availability, advantages and requirements of wrap-around relief plates and rotary presses were explained by the new system's pioneers and supply manufacturers at an all day seminar held in New York, Sept. 10.

More than 400 members of the industry attended the seminar, which was sponsored by the Research and Engineering Council of the Graphic Arts Industry.

Included among the registrants were representatives of the industry from foreign countries. Among the facts brought out were the following:

Plates and presses for rotary relief printing are available today, upon order; papers, inks, and rollers have been developed to meet the requirements of the new system; no makeready is required and plates can be made available for any size press, but the largest press now available on order is 30 inch.

The discussions were led by Mr. Robert Downie, of Marathon, a division of American Can Co. Mr. Downie is a pioneer in rotary relief printing.

Other principal speakers were Wesley Miller, Master Etching Machine Co.; E. W. Thomas, Speaker-Hines and Thomas; Floyd R. Lear, Jr., Industrial Engraving Co.; B. R. Halpern and Paul H. Smith, DuPont; Frank Dick, Printing Ink Division, Interchemical Corp.; and Norman Rowe, Ideal Roller & Mfg. Co.

•

Gordon Appoints Cohen

Frank Gordon Printing Co., Washington, has announced the appointment of Melvin F. Cohen as sales manager. Mr. Cohen has been associated with the graphic arts in the Washington area for several years.

The company has also announced a doubling of its space at 1213 Eye St., N.W. and the addition of new camera, platemaking and typecasting facilities.

•

Litho Courses Begin

Lithographic courses, sponsored by Cleveland Lithographic Institute, began at Fenn College Sept. 29. Two courses are being offered: an introductory course in layout and stripping, and a course in pressmanship.

•

British Printing Show in N. Y.

The biggest and most complete display of the British printing and publishing industry ever shown in the United States will be part of a 17-day British Exhibition of industry, technology, science and culture in the New York Coliseum next June 10-26.

The Federation of British Industries is sponsoring the event with the backing and support of the British Government.

Sir Norman Kipping, director general of the Federation, said that applications for display space already received "assure us of the first comprehensive British exhibition ever staged in the United States and a most outstanding event."

•

Clovis Is Guest Editor

Paul C. Clovis, president of 20th Century Press, Chicago, was "guest editor" on Aug. 23 of a column, the "Chicago Forum," which is featured on the editorial page of the Chicago Tribune each Sunday morning. Mr. Clovis is a director of PIA and a former president of Printing Industry of Illinois, when it was known as the Graphic Arts Association of Illinois. In his column he discussed "The Two Kinds of Luck," which he considered as both "natural" and "man-made."

•

Walter Barker Dies

Walter R. Barker, board chairman of UARCO, Inc., died Aug. 19 after more than 50 years of service with the Chicago-based manufacturer of business forms by offset and other processes. For 30 years, from 1925 to 1955, he served as president, then, following his election as chairman of the board, he retired to a new home in Santa Fe, N. M., where death occurred. Present head of the company is his son, Gregson L. Barker.

•

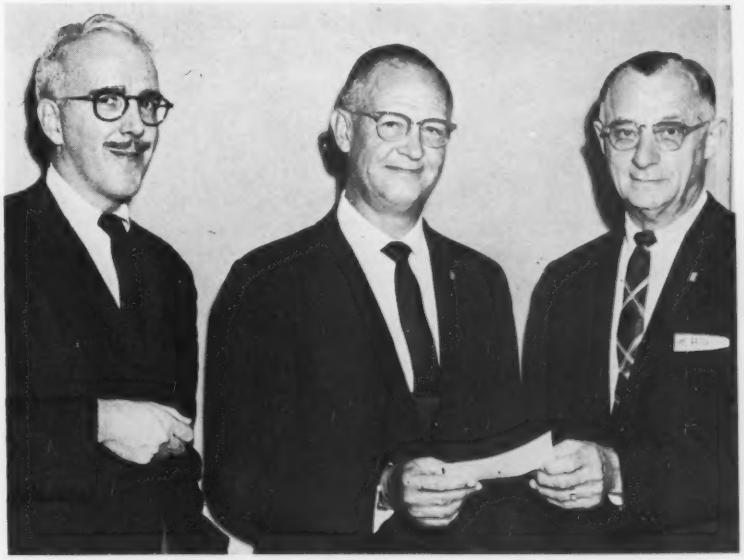
Continental Expanding

Continental Can Co. is starting a $2,500,000 expansion of its Pittsburg, Calif., metal lithographing facilities. Scheduled to be completed about January, 1960, the remodeled plant will go on a two-shift basis with about 125 men on each shift.

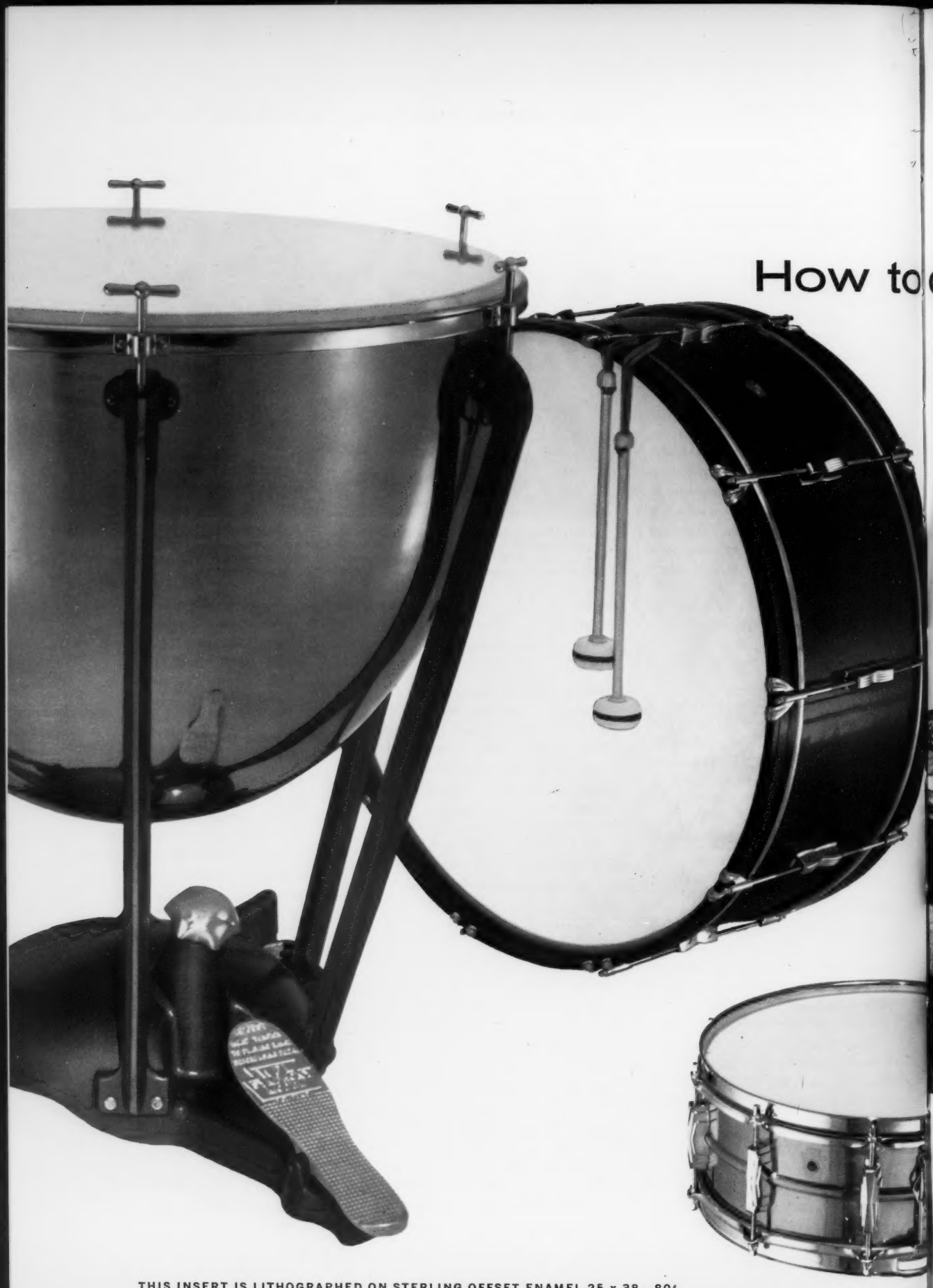
•

A. CARLISLE & Co., San Francisco, has added a new Miehle 61 four-color offset press.

McCormick-Armstrong Contributes to Fund



Harold D. Ross (r), chairman of the National Scholarship Trust Fund of the Educational Council of the Graphic Arts Industry receives check, for $394.00, contribution from McCormick-Armstrong Co., from A. G. McCormick. The check represents contributions from employees matched by the company. James X. Ryan (l) is chairman of the campaign.



THIS INSERT IS LITHOGRAPHED ON STERLING OFFSET ENAMEL 25 x 38—80#.

The Ludwig Drum Company's catalog was lithographed by Chicago Imperial Printing Company on Miehle and Miller 2-color offset presses. The cover and the text pages were lithographed on Sterling Offset Enamel.

to drum up more business

with STERLING OFFSET ENAMEL

Bass drums, snare drums, bongo and conga—the types, styles and colors of the Ludwig Drum Company's line required the most brilliant of printing surfaces to reflect their full beauty. The paper used: West Virginia's Sterling Offset Enamel, a bright, white coated offset paper that combines high gloss and excellent printability. Sterling Offset Enamel gives the lithographer fine appearance and outstanding performance.

West Virginia's coated and uncoated offset printing papers are available in a complete line to meet virtually every lithographic need. West Virginia's offset papers are stabilized. Moisture controlled on the machine, carefully regulated in the finishing room, and locked in by new packaging means that the paper's part in close registry is assured.

Whatever your paper requirements, look into West Virginia's direct sales and service for the prompt, expert attention that can save you time and money. For information and samples, just call the man from West Virginia, or write West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N.Y.

Fine Paper Division
Commercial Printing Paper Sales

Chicago 1/FR 2-7620	New York 17/MU 6-8400
Cincinnati 12/RE 1-6350	Philadelphia 7/LO 8-3680
Detroit 35/DI 1-5522	Pittsburgh 19/CO 1-6660
San Francisco 5/GA 1-5104	

West Virginia Pulp and Paper

A. E. Ruppel Advanced

A. E. Ruppel, eastern division manager for Roberts & Porter, Inc. since 1949, has been elected vice president, eastern division.

•

Adds Three Presses

Reliable Lithograph, San Francisco lithographic presswork plant, has added three Harris-Seybold presses, a two-color 23 x 26″, a single-color 20 x 26″, and a single-color 14 x 20″.

•

Tax Law Revised

A recent Ohio legislative session enacted several laws affecting the printing industry. In a bulletin from the Printing Industry of Cleveland, Inc., it was emphasized that the amended Sales Tax Law makes it imperative that the vendor (printer or lithographer) collect the tax or obtain a bona fide exemption blank from the purchaser. The only exception to this rule is in cases, such as interstate commerce, where it is impossible to obtain an exemption certificate.

A revised Blanket Certificate of Exemption for use by the Printing Industry of Ohio has been approved.

•

Forum Schedule Announced

The Greater Southeast Litho Technical Forum scheduled for the Dinkler-Plaza Hotel, Nov. 13 and 14, will feature both live and film demonstrations and discussions of the latest lithographic methods, co-chairmen R. E. Damon and Mendel Segal, of Atlanta, announced.

Michael H. Bruno and Frank Preucil, of the Lithographic Technical Foundation, are the technical experts who will be on hand to conduct the "improve your know-how" sessions. William H. Webber, executive director of the foundation, will also attend the forum.

Highlights of the meeting will be a supplier's reception and cocktail party Friday afternoon, and a plant tour for early arrivals that morning. The new plants of John H. Harland Co., Foote & Davies, Inc., and Stein Printing Co. are on the schedule.

•

R&E Program Studied

The Research and Engineering Council of the Graphic Arts Industry has announced that the program it has been sponsoring for the development of basic research and graduate study for the graphic arts has received good support from representative members of the industry.

The Council's committee on printing research recently invited a group of the industry's leaders to attend a meeting at Appleton, Wis., to explore reaction to the proposed program which would be handled by The Institute of Paper Chemistry.

The committee, under chairman Paul Lyle, Western Printing and Lithographing Co., is composed of Malcolm H. Frost, Book Manufacturers Institute, Inc.; E. J. Triebe, Kingsport Press; C. M. Flint, Chas. T. Main, Inc.; and Robert E. Rossell of R. & E.

Because of the general support of the program expressed at the Appleton meeting, another meeting was held Sept. 30, at which time the committee expected to double its membership.

•

Forbes Elects Brimer

Forbes Lithograph Manufacturing Co., Boston, has announced the election of Wallace E. Brimer to the board of directors. He formerly was treasurer and controller of Forbes before joining the Tyer Rubber Co., Andover, Mass., of which he is president and treasurer.

•

Polychrome Has New Offices

Polychrome Corp., Yonkers, N. Y., has announced the opening of several new direct sales offices. They are in Syracuse, under the direction of Harold W. Koon; Akron, O., William J. Adams; Columbus, O., under John J. Carro and Los Angeles under William Doescher.

Joseph Naymik Awarded

Joseph Naymik, Harris-Seybold Co., shown after being notified of his successful entry in an international engineering "case history" contest. His paper described the use of hydraulic fittings in Harris presses.

•

Adds New Equipment

Peterson-Heyne-Pingree of Oakland, Cal., has increased its lithographic facilities with acquisition of a new 36″ two-color Harris-Seybold press, a Craftsman line-up table, and a 42″ cutter. It has also expanded plant area from 5,000 to 8,000 square feet by taking over an adjacent building.

•

Graphico Buys Jones

Jones Printers Supply Co., Richmond, Va., has been sold to Graphico, Inc., also Richmond, which handles machinery and supplies for the graphic arts industry.

Graphico is located at 614 East Main St. former site of E. H. Walker Supply Co. Walker, also a printing supply company, sold its Richmond business in June to Graphico but still operates in Washington. The Richmond staff of Walker's has joined Graphico.

George R. Jones, who founded Jones Printers Supply about 35 years ago, has become a sales consultant for Graphico.

•

PROGRESSIVE LITHO and Printing Co., Little Rock, has opened its new plant at 500 East Markham St.

Was Ist Das?

Printers from West Germany listen to simultaneous translation of one of the clinics at Craftsmen convention in New York last month. Printers and lithographers from every state in the U. S., Canada, and many foreign countries attended the meeting.

Jefferson Printing Expands

JEFFERSON Printing Co., St. Louis, turned what looked like a disaster into an advantage by creating a split-level addition to its present building at 3828 Washington Ave.

A year ago the company excavated the area in front of the existing building and planned to erect a new addition 30 feet forward of the property line and also add an additional building on the west. Adjacent property owners, however, successfully sued and the printing company was required to move its new building back 30 feet.

With the excavation already completed, the architects came up with the idea of using the area as a patio and landscaped terrace, with a two-story all glass front on the two-story addition to take in the view.

To make up for the space lost across the front, greater depth was provided in the new addition. The new two-story addition is now almost as deep as the original printing plant.

The total added floor space of 13,000 square feet is to be allocated for new offices, additional printing plant facilities, additional storage, and a small area for lease to tenants.

Loading facilities at the rear ininclude an 8 x 20 foot sheltered concrete dock, and a three-level hydraulic freight elevator. The building is completely air conditioned.

Expansion in printing facilities is in the ratio of 60 percent offset and 40 percent letterpress, according to Harry L. Laba, president.

•

"Digest" Discontinued

The Graphic Arts Digest, a publication of the Graphic Arts Young Executives Association of Milwaukee has been discontinued. According to the Association the move was necessary because of production difficulties.

•

International Appoints Rand

George H. Rand was recently appointed to the executive staff of International Paper Co., New York. He will serve as assistant to Stuart E. Kay, vice president.

Mr. Rand, who served as divisional manager for the northern mills since 1954, will move to the company's New York offices where he will assist Mr. Kay on operations of the northern division and on special assignments.

•

Munising Handbook on Paper

A new specifications handbook for Munising business papers has been published by the Munising Paper Co., a subsidiary of Kimberly-Clark Corp. For use by distributor salesmen of Munising business papers, the handbook contains reference to grade, manufacturing and packaging information.

•

Consolidated Sales Up

Production and sales for the first six months of 1959 were at a record high, according to a report to stockholders at the annual meeting of Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis.

For the first six months of 1959 the company reports it produced and sold more paper, converting products, and plastics than for any similar period in its history.

Second quarter earnings for this year amounted to $1,688,000 and are approximately $125,000 higher than second quarter earnings during 1958.

•

Warren Advances Four

S. D. Warren Co., paper manufacturers, recently announced promotions in its sales force.

H. J. Ziegler, Philadelphia district manager, will join the management staff of Warren's advertising and sales promotion department at the head office in Boston.

Charles W. Schmidt, district manager in San Francisco, will take responsibility for the Philadelphia district.

William C. Anderson will become San Francisco district manager. He is presently a member of Warren's field force in New York.

Stanley I. Pollard will transfer from Boston to assist with sales to book publishers in the New York area.

•

Business Forms Change Name

William G. Bedinghaus, Jr., president of the Modern Business Forms Manufacturing Co., Cincinnati, has announced a change in the corporate name to Bedinghaus Business Forms Co. The firm, established in 1946, lithographs business forms.

Paris In Spring

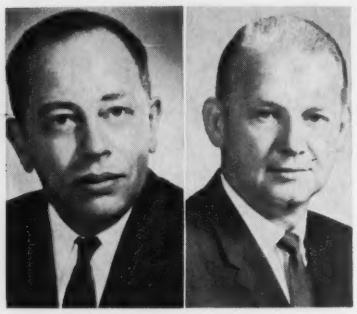
A special "Paris in the Spring" tour is being planned by the National Association of Photo-Lithographers. According to Walter E. Soderstrom, executive vice president, the group will sponsor special chartered plane accommodations at less than $300 for round trip.

Big attraction in Paris will be the Salon International des Papietres et Graphiques, April 29-May 8 in Paris.

Persons interested in obtaining details about the trip should write to NAPL at 317 West 45th St., New York 36.

Randall Advanced by R&P

Theodore P. Randall, Boston branch manager for Roberts & Porter,



Bohrer Randall

Chicago, has been elected vice president in charge of the company's New England division.

Mr. Randall started his career in 1934 as plate room apprentice with Kellogg & Bulkeley, Hartford. Before moving into the field of graphic arts supplies, he worked for Boston Offset Co., Bailey Press and Buck Printing Co.

Charles C. Bohrer has joined Roberts & Porter as manager of technical sales.

Mr. Bohrer has 20 years experience in the graphic arts.

•

Establishes Caracas Plant

Sun Chemical Corp., New York, has established a new printing ink plant in Caracas, Venezuela. Bernard Kaufman was appointed general manager of the new plant.

The Caracas plant will be operated under the name of Sun Chemical—Fuchs & Lang de Venezuela, S. A. and will be under the general supervision of L. M. Flores, general manager of Fuchs & Lang de Mexico. The plant will manufacture a complete range of letterpress, lithographic, gravure and flexographic inks.

In order to provide a full line of inks and lithographic supplies for the South American trade, Sun has hired local engineers and technical personnel in Caracas who have been trained by technicians from the company's Mexico City subsidiary. In addition to the products manufactured locally, the Caracas plant will also handle machinery built by Sun's Rutherford Machine Division.

During recent months, Sun Chemical has also opened new printing ink plants in Atlanta, Ga.; Richmond, Va.; Rochester, N. Y.; Hartford, Conn., and Winnipeg, Canada. In addition, ground has been broken for a plant in Cincinnati; the Montreal plant has been moved to larger quarters, and a second plant has been opened in Toronto.

•

Offset Weekly Adds Color

The *Calhoun County Times*, a weekly newspaper published in Port Lavaca, Texas and printed by offset has recently added color to its advertising, according to story in the *Editor and Publisher*.

A meat promotion advertisement in the paper was recently cited by Armour and Co. as an outstanding example of retail promotion.

The paper prints standard eight column ranging from 12 to 20 pages, using a Harris 36 x 48″ which prints four pages up on a 32 x 44″ sheet of newsprint.

•

Potomac Buys Hassrick

Potomac Electrotype Company, Philadelphia, has purchased Kenneth Hassrick & Co., of the same city, makers of black and white and multicolor offset plates and negatives.

The Hassrick plant and personnel will move to 919 Walnut Street, where Potomac has leased additional space.

Potomac becomes one of the first electrotypers in the country to serve lithographers with printing plates and negatives.

Sterlip Adds '238'

Sterlip Press, Inc., New York, showed its new "Chief 238" offset press to trade press editors Sept. 29. Sterlip is the first plant in the U. S. to install the new two-color press, which handles a sheet size up to 25½ x 38″.

The press is distributed by American Type Founders Co., Elizabeth, N. J. According to the company, it is capable of speeds up to 7,500 iph.

G. W. Stevens Elected

George W. Stevens has been elected to the board of directors of Crescent Ink and Color Co., Philadelphia. He has been associated with the com-

George W. Stevens

pany in an executive sales capacity since 1934.

Mr. Stevens retains his position as secretary and vice president of the firm, which has offices in Philadelphia, Milwaukee, Atlanta and St. Louis.

•

Rules Unfair Labor Practice

The National Labor Relations Board recently affirmed the finding of the trial examiner in the case of Amalgamated Lithographers Local No. 2 and the Buffalo Employers Group that refusal by the Union to work overtime during the negotiation period is not bargaining in good faith and is therefore an unfair labor practice under 8(b)(3) of the Taft-Hartley Act.

This decision now becomes official board policy and must be recognized and enforced by Regional Directors of the NLRB.

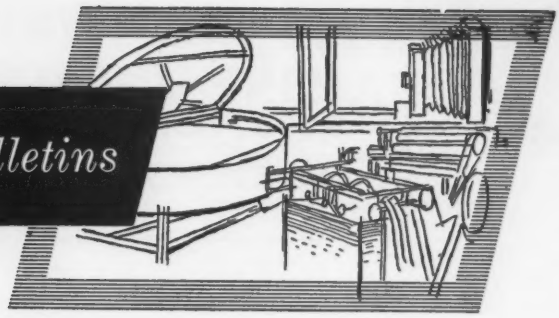
•

ATF Exhibit to Tour

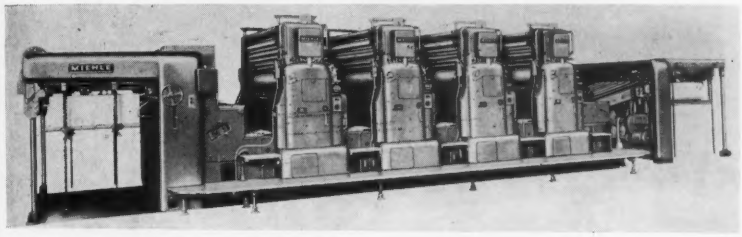
American Type Founders Co. will present four of its Graphic Arts Exhibition features at a special "Post-Exposition Show and Open House" to be held, during October, at the American Type Founders Co. branches, in Atlanta, Ga., and Los Angeles. The exhibits include the ATF Chief 126, the complete offset plant, the Senator Spacer Cutter, and the ATF Typesetter.

The complete offset plant is a reconstruction of one of the attractions at ATF's exhibit during the Exposition. Built around the Chief 15, the complete plant includes a camera, plastic sink, printing frame, layout table, and all other equipment necessary for profitable, efficient production in a small area.

Equipment, Supplies, Bulletins



Miehle Offers Multi-Color Press



The Miehle 43/60 sheet-fed multi-color offset press is now being offered by The Miehle Company, division of Miehle-Goss-Dexter, Inc., Chicago. According to the company, the new press will handle sheets from 22 x 34″ to 43 x 60″ at operating speeds up to 6,500 sheets an hour.

Featuring Add-A-Unit construction, the press is available in from one to six color units. Each printing unit is completely self-contained, so that additional units can be added to presses in the field with a minimum of down-time and cost.

The press may be equipped with a non-stop feeder and a continuous double pile delivery for long run, high speed production.

Some of the design features of the press include: cam closed carbide grit-faced grippers for positive sheet control; Miehle's patented overlap sheet register system; rotative ink drive with 360° inker vibrator timing; Bijur automatic lubrication system; air glide sheet transfer; drive gears in sealed bath of oil; drop away ink fountain for fast, thorough cleaning and all electric water fountain drive.

Additional information about the new 43/60 press is available from the company at 2011 Hastings St., Chicago 8.

Miller Offers Camera

Miller-Trojan Company of Troy, O., is marketing a larger version of its Sharpshooter camera, for black and white and color. The camera will accommodate film up to and including 14 x 18″ with a variety of camera backs. A cut film stayflat back, vacuum back, xerography back or the new Eastman matrix back can be used interchangeably and the same camera focusing tapes employed for each, according to the company.

Standard equipment includes: cut film stayflat back, automatic reset timer, solenoid shutter, new Wollensak wide field lens, diaphragm control, stainless steel focusing tapes, 23 x 26″ pressure type copy board with target board for accurate positioning of copy and six 300-watt exposing lights.

•

NuArc Adds "Flip Top" to Line

NuArc Co. of Chicago has added the FT-62 "Flip-Top" to its line of Production Dynamos. The FT-62 makes razor-sharp plates up to 50″ x 62″ in size, and is particularly suitable for plants with larger offset presses, according to the company.

The term "Flip-Top" refers to the fact that all models in the line load in the conventional face-up manner. However, a touch of the release knob pivots the entire frame face downward for even exposure. The FT-62 differs in that the frame rises by means of convenient supports on either end, for easy positioning of elements, before being lowered and pivoted face-downward.

•

ATF Product Bulletins

American Type Founders Co., Elizabeth, N. J., has recently released five new booklets describing its new products for the trade. They are a twelve page booklet on the Webendorfer line of web offset publication presses; a six-page booklet on the Solna 24″ perfecting offset press; a six-page booklet describing the Chief 226 offset press; a four-page booklet on the 32¼″ Senator paper cutters with a demonstration instruction sheet showing the most economical operation of the units; a four-page booklet on the Chief 126 single color sheet-fed offset press. All the booklets are available from the company's office or branches.

•

Import Swiss Film

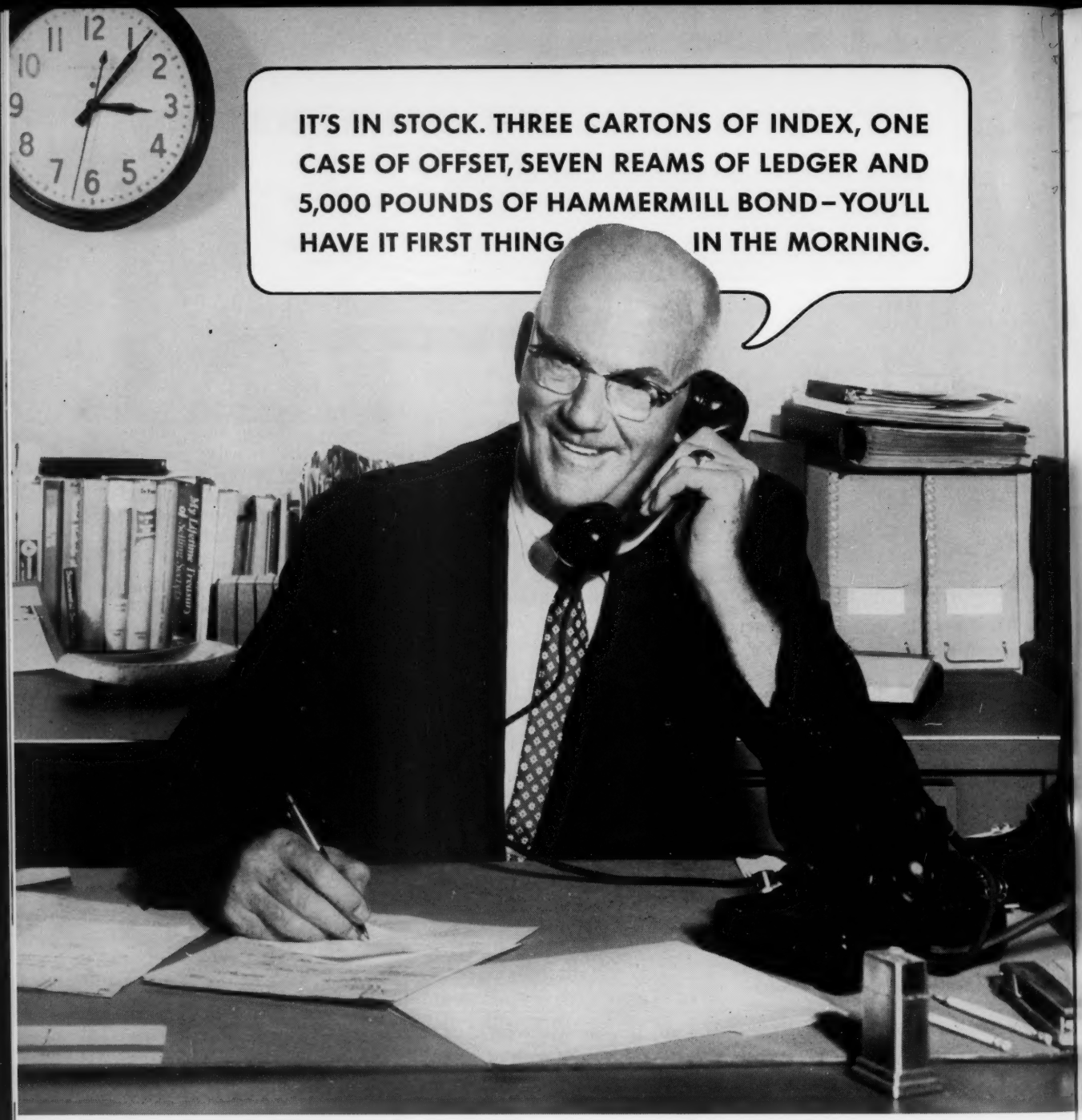
A new Swiss litho film, Typon, is being imported by the Vero-Dot Film & Chemical Corp., New York. The film is on a special plasticized base and is said by the company to reduce opaquing time by 60 percent.

The film has been used in several litho plants in the past year, the importer reports, with favorable results. Additional information on the film is available from the company at 145 West 45th St., New York.

•

Masking Products Available

A series of bulletins describing various masking products offered by Ulano Products Co., is available from the company at 610 Dean St., Brooklyn.


IT'S IN STOCK. THREE CARTONS OF INDEX, ONE CASE OF OFFSET, SEVEN REAMS OF LEDGER AND 5,000 POUNDS OF HAMMERMILL BOND – YOU'LL HAVE IT FIRST THING IN THE MORNING.

Your Hammermill Merchant can promise quick service because his well-stocked warehouse is so handy.

Turning rush orders into routine deliveries is your Hammermill Merchant's specialty. His facilities and his willingness to move fast keep you out of the warehouse business. You save space, labor and money. You get rid of the annoyances of overstocking when you rely on your Hammermill Merchant. Call him.

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Birmingham .. Strickland Paper Co., Inc.
Montgomery ..... Weaver Paper Co.

ARIZONA
Phoenix ..... Zellerbach Paper Co.

ARKANSAS
Little Rock .. Western Newspaper Union

CALIFORNIA
Fresno ..... Zellerbach Paper Co.
Los Angeles ..... Zellerbach Paper Co.
Oakland ..... Zellerbach Paper Co.
Sacramento ..... Zellerbach Paper Co.
San Diego ..... Zellerbach Paper Co.
San Francisco ..... Zellerbach Paper Co.
San Jose ..... Zellerbach Paper Co.
Stockton ..... Zellerbach Paper Co.

COLORADO
Denver ..... Carpenter Paper Company
Pueblo ..... Carpenter Paper Company

CONNECTICUT
Hartford .... Henry Lindenmeyr & Sons
Hartford .. Green & Low Paper Co., Inc.
Hartford ... Carter Rice Storrs & Bement
New Haven, Carter Rice Storrs & Bement

DISTRICT OF COLUMBIA
Washington ... R. P. Andrews Paper Co.

FLORIDA
Jacksonville .... Virginia Paper Co., Inc.
Miami ..... E. C. Palmer & Company
Tampa ..... E. C. Palmer & Company

GEORGIA
Atlanta ..... S. P. Richards Paper Co.
Atlanta, Wyant and Sons Paper Company

HAWAII
Honolulu, Honolulu Paper Company, Ltd.

IDAHO
Boise ..... Zellerbach Paper Co.

ILLINOIS
Champaign, Cresent Paper Co., Illinois Div.
Chicago ..... Bradner Smith & Co.
Chicago ..... Carpenter Paper Company
Chicago ..... Chicago Paper Co.
Decatur .. The Decatur Paper House, Inc.
Peoria ..... Peoria Paper House, Inc.
Quincy ..... Irwin Paper Co.
Springfield .. The Capital City Paper Co.

INDIANA
Evansville .. The Diem & Wing Paper Co.
Fort Wayne ..... Butler Paper Co., Inc.
Indianapolis ..... Crescent Paper Co.

IOWA
Des Moines .. Carpenter Paper Company
Des Moines .. Western Newspaper Union
Sioux City ... Carpenter Paper Company
Sioux City ... Western Newspaper Union

KANSAS
Topeka ..... Carpenter Paper Company
Topeka ..... Midwestern Paper Co.
Wichita ..... Western Newspaper Union

KENTUCKY
Louisville .. Southeastern Paper Co., Inc.

LOUISIANA
New Orleans .. E. C. Palmer & Company
Shreveport ... Western Newspaper Union

MAINE
Portland .... C. M. Rice Paper Company

MARYLAND
Baltimore .... The Baxter Paper Co., Inc.
Baltimore-Warner Paper Co., Inc.
Hagerstown ... Antietam Paper Co., Inc.

MASSACHUSETTS
Boston ..... Carter Rice Storrs & Bement
Boston, Cook-Vivian-Lindenmeyr Co., Inc.
Springfield .. Carter Rice Storrs & Bement
Worcester .. Carter Rice Storrs & Bement

MICHIGAN
Detroit ..... Beecher, Peck & Lewis
Flint ..... Beecher, Peck & Lewis
Grand Rapids, Carpenter Paper Company
Lansing ..... The Dudley Paper Co.
Saginaw ..... The Dudley Paper Co.

MINNESOTA
Duluth ..... Carpenter Paper Company
Minneapolis .. Carpenter Paper Company
Minneapolis ..... Leslie Paper
Saint Paul ..... Leslie Paper

MISSISSIPPI
Jackson ..... Jackson Paper Company
Meridian ..... Newell Paper Company

MISSOURI
Kansas City .. Carpenter Paper Company
Kansas City ..... Midwestern Paper Co.
Saint Louis ..... Beacon Paper Company
Saint Louis ..... Tobey Fine Papers, Inc.
Springfield ..... Springfield Paper Co.

MONTANA
Billings ..... Carpenter Paper Company
Great Falls ..... Leslie Paper

NEBRASKA
Lincoln ..... Carpenter Paper Company
Lincoln ..... Western Newspaper Union
Omaha ..... Carpenter Paper Company
Omaha ..... Western Paper Company

NEVADA
Reno ..... Zellerbach Paper Co.

NEW HAMPSHIRE
Concord ..... C. M. Rice Paper Co.

NEW JERSEY
Hillside ..... Henry Lindenmeyr & Sons

NEW MEXICO
Albuquerque, Carpenter Paper Company

NEW YORK
Albany ..... Hudson Valley Paper Co.
Buffalo ..... The Alling & Cory Co.
Buffalo ..... Hubbs & Howe Co.
Long Island City, Henry Lindenmeyr & Sons
New York .. The Alling & Cory Company
Miller & Wright Paper Company
New York ..... Beekman Paper Co., Inc.
New York .. Bulkley, Dunton & Co., Inc.
New York .. Green & Low Paper Co., Inc.
New York, Linde-Lathrop Paper Company
New York ..... Reinhold-Gould Inc.
New York, Union Card & Paper Co., Inc.
Rochester ..... The Alling & Cory Co.
Syracuse ..... The Alling & Cory Co.
Troy ..... Troy Paper Corporation
Utica ..... The Alling & Cory Co.

NORTH CAROLINA
Charlotte ..... Caskie Paper Co., Inc.
Raleigh .. Epes-Fitzgerald Paper Co., Inc.

NORTH DAKOTA
Fargo ..... Leslie Paper
Fargo ..... Western Newspaper Union

OHIO
Akron ..... The Alling & Cory Co.
Cincinnati .. The Diem & Wing Paper Co.
Cleveland ..... The Alling & Cory Co.
Cleveland ..... The Petrequin Paper Co.
Columbus .. The Central Ohio Paper Co.
Dayton, The Jack Walkup Paper Co., Inc.
Toledo ..... The Central Ohio Paper Co.

OKLAHOMA
Oklahoma City, Carpenter Paper Company
Oklahoma City, Western Newspaper Union
Tulsa ..... Tayloe Paper Company
Tulsa ..... Western Newspaper Union

OREGON
Eugene ..... Zellerbach Paper Co.
Portland ..... Zellerbach Paper Co.

PENNSYLVANIA
Allentown ... Lehigh Valley Paper Corp.
Erie ..... Daka Paper Company
Erie ..... Durico Paper Company
Harrisburg ..... The Alling & Cory Co.
Philadelphia ..... Paper Merchants, Inc.
Philadelphia .. The Thomas W. Price Co.
Philadelphia, The J. L. N. Smythe Company
Philadelphia ..... D. L. Ward Co.
Pittsburgh ..... The Alling & Cory Co.
Scranton ..... Megargee Brothers, Inc.
York, Andrews Paper House of York, Inc.

RHODE ISLAND
Providence . Carter Rice Storrs & Bement
Cook-Vivian-Lindenmeyr Co., Inc.

SOUTH CAROLINA
Columbia, Epes-Fitzgerald Paper Co., Inc.

SOUTH DAKOTA
Sioux Falls ..... Leslie Paper

TENNESSEE
Chattanooga .. Southern Paper Company
Knoxville, Southern Paper Company, Inc.
Memphis ..... Tayloe Paper Company
Memphis .... Western Newspaper Union
Nashville ..... Clements Paper Company

TEXAS
Amarillo .... Carpenter Paper Company
Austin ..... Carpenter Paper Company
Dallas ..... Carpenter Paper Company
Dallas ..... E. C. Palmer & Company
El Paso ..... Carpenter Paper Company
Fort Worth .. Carpenter Paper Company
Harlingen ... Carpenter Paper Company
Houston ..... Carpenter Paper Company
Houston ..... E. C. Palmer & Company
Lubbock ..... Carpenter Paper Company
San Antonio .. Carpenter Paper Company

UTAH
Salt Lake City, Carpenter Paper Company
Salt Lake City, Western Newspaper Union
Salt Lake City ..... Zellerbach Paper Co.

VIRGINIA
Lynchburg ..... Caskie Paper Co., Inc.
Norfolk .. Epes-Fitzgerald Paper Co., Inc.
Richmond, Epes-Fitzgerald Paper Co., Inc.
Richmond .... Richmond Paper Co., Inc.

WASHINGTON
Seattle ..... Zellerbach Paper Co.
Spokane ..... Zellerbach Paper Co.
Tacoma ..... Standard Paper Co.
Walla Walla ..... Zellerbach Paper Co.

WEST VIRGINIA
Charleston ..... Copco Papers, Inc.
Clarksburg .... R. D. Wilson—Sons & Co.

WISCONSIN
Milwaukee .. The Bouer Paper Company

"The paper you ordered is on its way. It left the warehouse at 8:02."

Offer Aerosols for Litho

Three new aerosol packaged sprays for use in the pressroom, are being offered by Anchor Chemical Co. They are an adhesive spray designed to hold firmly on a wide variety of surfaces, such as wood, plastic, glass, metal and leather; a lubricating grease spray designed to cling to metals and a protective spray designed to prevent the build-up of inks, adhesives and moisture on any nonporous surface.

Further information about the sprays is available from the company at 829 Bergen St., Brooklyn.

•

Emphasizes Direct Sales

In a talk to a company sales conference recently, David L. Luke, president, West Virginia Pulp and Paper Co., New York, emphasized the importance of direct sales to commercial printers as the key in the company's sales program. He also reported the company's technical service program a success.

It was also reported that when expansion is completed, the company's Luke mill will have a production capacity of 1,000 tons of white paper a day. The expansion involves a $50 million dollar investment.

•

Describe Linotype Equipment

Mergenthaler Linotype Co. has prepared three booklets describing the company's cold typesetting system.

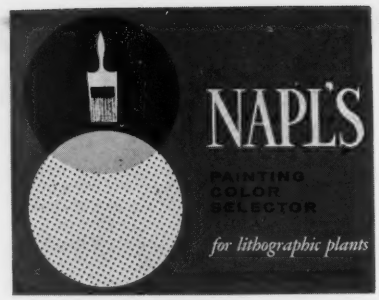
Linofilm is a 24 page booklet with all the information about the system and photographs of production models. Included are a number of graphs showing a comparison of the system with other methods of cold type composition.

The titles of the other two booklets are *The Linotype Line* and 13 *Type Faces*.

•

Offer Sample Boxmaker

Bar-Plate Manufacturing Co., Orange, Conn. is offering a machine for making sample boxes. According to the company, the machine will increase efficiency in this operation and will operate to within .002 accuracy of layout.



Offers Decorating Guide

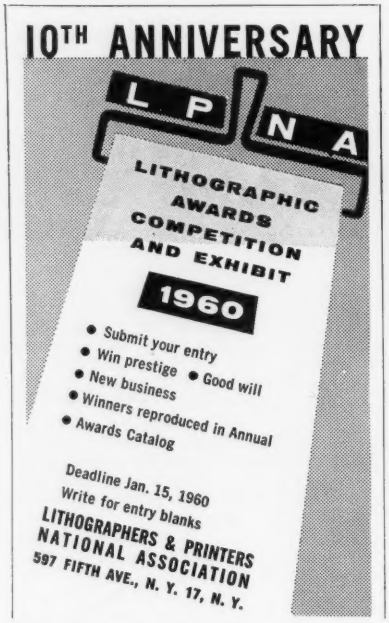
NAPL is offering a color guide for selecting paints for decorating litho plants. The guide, entitled "NAPL's Painting Color Selector for Lithographic Plants," offers a number of color schemes which research has shown are best suited for use in plants. The schemes are designed to achieve a desirable environment for the various areas in a litho shop.

The guide has been mailed to all members of the association and is available to non-members from the National Association of Photo-Lithographers, 317 West 45th St., New York, at $5 a copy.

•

Distribute Sample Folder

Finch, Pruyn and Co., Glens Falls paper manufacturer, is distributing to printers and publishers a sample folder containing specimen sheets of the new "Finch" offset.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597 FIFTH AVE., N. Y. 17, N. Y.

C & C Press Offered

A new 42 x 62″ corrugated and solid fibre cutting and creasing press, the Bobst SPO 1575 Autoplaten, now is available from Thomson-National Press Co., Inc., Franklin, Mass.

The press offers speeds up to 4,500 sheets an hour and is a special new model without stripping stations. It features a pivot-in-place cutting chase which can be pulled out horizontally and turned over for easy access to makeready without removing the chase from the press, according to the company.

The unit handles corrugated stock up to ⅜″ and fibreboard in all normal thicknesses. Either a .937″ or 1⅛″ cutting rule can be used with no crushing of the stock.

•

Offer Delivery Wheel

A new delivery wheel for offset presses, designed to prevent smudging of finished sheets is being offered by W & W Tool and Die Co.

According to the company, tracks and smudges are prevented by controls which are mounted on the outside of the wheel and which can be adjusted by the pressman to prevent contact with any wet areas on the sheet.

Information on the wheel is available from the company at 1508 East Grove St., Midland, Mich.

•

Offering New Inks

Three new special purpose inks are being offered by Colitho Division of Columbia Ribbon and Carbon Mfg. Co., Glen Cove, N. Y.

The first is a magnetic ink designed for use with high speed data processing techniques. Along with this are a black proof press preprint ink and a black dual purpose offset and letterpress preprint ink.

•

Miller Opens Branch

Miller Printing Machinery Co., Pittsburgh, has announced that sales, parts and service of its line of offset and letterpress equipment are now available to western firms through a new Los Angeles office as well as the San Francisco branch office.

Profitable
DIE CUTTING!

PMC

A troublesome service **can** be turned into a profitable operation with the PMC Die Cutting Machine. Many printers and lithographers have found new business opportunities in a wide variety of work requiring an efficient, economical die cutting operation.

Speed—ruggedly built and simple to adjust, the PMC Die Cutting Machine can handle up to 300,000 pieces per hour; **simplicity**—die can be locked into a registered position in the machine in a few minutes, change of jobs made quickly and easily; **versatility**—handles a wide range of label, round cornering and specialty work and is efficient for both, long and short runs.

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Your work is as good as your bond...

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Start with a blend of the finest pulps . . . add a deep natural spring of purest water and the world's most modern paper making machinery . . . and you're ready to make Hamilton Bond. Here is a No. 1 Sulphite of supreme quality. It has the extra whiteness to bring out all the beauty of letterhead design and type. It is *genuinely* watermarked, with an even, uniform surface and remarkable strength and opacity. Its crisp bond feel says "superlative quality" to every printer.

Hamilton Bond is a *complete* line with white in three finishes, and colors for every business use. Print on it with confidence that you will please your customers—for Hamilton Bond brings out the best in your work!

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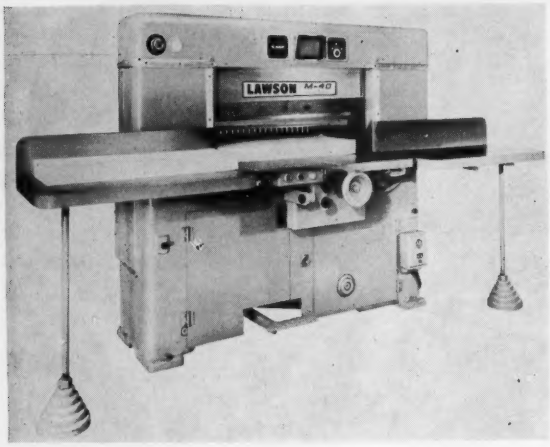
HAMILTON PAPER COMPANY, MIQUON, PA.
Mills at Miquon, Pa., and Plainwell, Mich.
Offices in New York, Chicago, Los Angeles

HAMILTON PAPERS

BUSINESS PAPERS • TEXT & COVER • OFFSET • BOOK

Lawson Introduces M-40 Cutter



Lawson M-40 Cutter

A new, low priced 40″ hydraulic clamp cutter is being introduced by The Lawson Co., Division of Miehle-Goss-Dexter, Inc., Chicago. Known as the Lawson M-40, the new cutter features a 6″ clamp opening, 60 stroke-per-minute knife speed and two-end knife pull.

Two-end pull combines with a new knife bar design to permit the knife to be pulled from the line of the cut, thus eliminating uneven cutting.

At 60 strokes per minute, the knife speed of the cutter is nearly 50 percent faster than any other guillotine cutter of any size, a company spokesman stated.

All operating controls are located on the front of the machine within easy reach of the operator. Pressure adjustment and gauge are located at eye level, as is the optically projected magnified scale for reading the distance of the back gauge from the line of cut, states the company. Two-hand starting buttons are recessed in the underside of the front table for added operator safety. Pushbuttons for the motor operated back gauge are located for maximum convenience.

Forms New Sales Unit

Two sales territories of the International Paper Co. fine paper and bleached board division have been consolidated and a new over-all regional manager appointed.

The New York sales and Middle Atlantic sales areas have been combined. Louis Chable, Jr., has been named regional manager of the newly combined areas, which will be called the Middle Atlantic sales territory. The teritory includes New York, New Jersey, most of Pennsylvania, Maryland, Delaware and the District of Columbia.

•

New Camera Introduced

A new vertical dark room camera has been introduced by the Vulcan Photoengraving Co.

The camera features include a maximum enlargement of seven times and maximum reduction of three times; mechanical filter changer with a choice of 14 filters; four way blackout curtains to cut down masking time and contact screens instead of glass screens.

Information is available from the company at 216 West 18th St., New York.

•

Consolidated Appoints Gelber

The Consolidated International Equipment and Supply Co., Chicago, has appointed Harvey Gelber as vice-president in charge of eastern sales. According to the company, the appointment was concurrent with the establishment of a newly enlarged sales and service organization at 330 W. 26th St., New York.

A graduate of New York University, Mr. Gelber was formerly with the Horan Engraving Co.

Dycril Outlets Named

Four additional commercial outlets to produce ready-to-run "Dycril" photopolymer printing plates have been selected. Du Pont Co. also indicated that preliminary design is under way for a commercial plant which will manufacture the blank plates. Present production, the company said, is coming from a small manufacturing facility at the Du Pont Photo Products plant at Parlin, N. J.

The four new outlets for ready-to-run photopolymer printing plates are Polyplate Corp. (a division of Quality Photo-Engraving Co.), the Flower Co. (an affiliate of Flower Steel Electrotype Co.) and Horan Engraving Co., all of New York City, and Progressive Composition Co. of Philadelphia.

Horan Engraving Co. will be making the plates within a few weeks, as soon as exposure and washout equipment is available. The other firms are producing the plates now.

The plate consist of a photosensitive plastic supported by a metal backing which may be either flexible or rigid. Matter to be printed is incorporated into a high-contrast photographic negative. This negative is held in contact with a blank plate. Then exposure to an ultra-violet light source, such as carbon arc, is made through the negative. Ultra-violet light striking the intended printing areas of the plate makes those areas relatively insoluble. Unexposed and thus unaffected plastic is removed from the plate by a pressurized water spray containing less than one percent sodium hydroxide, leaving the printing areas in relief. A ready-to-run plate can be made from a prepared negative in less than 20 minutes, according to the company.

Du Pont released its Photopolymer Progress Report No. 4 at the Graphic Arts Exposition and displayed five types of "Dycril" plates which are now available. It indicated that by mid-1960, a 28 x 30″ plate approximately .030″ thick, with about .015″ relief, would be available for use on new wrap-around sheet-fed rotary letterpresses such as those recently announced by the Harris and Miehle companies.

Where can I get sound information on Lithography?

GOOD QUESTION . . . *Here is the Answer!*

Budgeted Hourly Costs

You can secure Budgeted Hourly Cost Rates for both Factory and All-Inclusive lithographic cost centers based on one and two shifts and for several rates of productivity in a treatise entitled "A Study of a Simplified Method for Building Budgeted Hourly Cost Rates in a Lithographic Plant", $25 per copy, no charge to members. This up-to-date work shows in complete detail, every item going to make up these Budgeted Hourly Rates.

Wage Scale

• Wages, Hours, Working Conditions and Complements of Help prevailing in union plants in 60 cities.

Trade Custom Precedents

• Court Decisions on Lithographic Trade Customs dealing with the Ownership of Lithographic Negatives, Positives and Plates, Color Variations in a Lithographed Job, etc.

Cost System

• The Uniform Accounting and Cost System of the NAPL carrying complete forms and instructions on how to gather and set up cost data and production time for all lithographic cost centers.

Surveys

• Surveys of lithographers on Management Problems such as:

- Billing Over or Under Runs
- Salesmen's Compensation and Expenses
- Lithographing on Two Color versus Four Color Presses
- Markup on Paper, Film, Ink and Outside Work
- Renting a new building, moving, building a plant, floor plans
- Depreciation practice of lithographers
- Production Control Procedures
- Work Simplification Study

Bulletins

• Specifications, estimating, quotations, job envelopes, time tickets for all cost centers, monthly accumulation form.

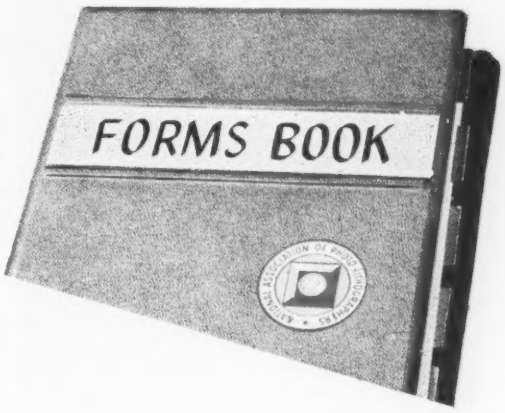
Maximum Prices Minimum Cost

• The NAPL Forms Book is a tribute to the cooperation of NAPL members. Here you will find information that is commonly kept as a closely-guarded secret—internal forms pertaining to the myriad problems of litho management. All forms and systems have originated out of the experience of capable and highly respected firms. When you are a member of NAPL, this material is available to you for your study and reference whenever you request.

• Bulletins throughout the year dealing with every phase of Production, Selling and Management in a lithographic plant.

• Yes, and you can have many other "must" items dealing specifically with lithography. All of these values can be yours under NAPL membership.

• We operate on the basis of delivering a maximum service program for minimum dues cost.



Fill in the form below, mail it to the NAPL to see how much you will get for so little . . .

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.....1959

NATIONAL ASSOCIATION OF PHOTO-LITHOGRAPHERS
317 West 45th Street, New York 36, N. Y.

We hereby make application for enrollment in the National Association of Photo-Lithographers.

We enclose herewith $.....as our first year's dues.

No. of Presses	ACTIVE MEMBERS	
	Presses smaller than 17" x 22", (Minimum Dues $50.00 per year) .	$20.00 per press per year $
	Presses 17" x 22" to 22" x 28" . .	$28.00 per press per year $
	Presses larger than 22" x 28" up to and incl. 35" x 45"	$37.00 per press per year $
	Presses larger than 35" x 45" . .	$47.00 per press per year $
	ASSOCIATE MEMBERS	
	Equipment and Supply Dealers and Manufacturers, $125.00 per year	
	Minimum Dues, $50.00 per year.	Total $

Firm .....

Address .....
No., Street or Avenue *City, Zone and State*

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NO SMEAR...NON-OILY...GUARANTEED EFFECTIVE...YET COSTS LESS!

MAIL TODAY!

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Ship____16 oz. cans of Neutro-Stat @ $2.75

____cartons (1 doz. 16 oz. cans) @ $27.50

FIRM_____

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SIGNATURE_____

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There are real advantages to doing things together. For instance, by ordering MODERN LITHOGRAPHY in a group subscription four or more people can receive ML for only $2.50 *each. A saving of* $1.50 *over the regular price for the year. See pages* 129 *and* 130 *for a handy order blank.*

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Box 31, Caldwell, N.J.

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Send a Bill ☐

Foreign Rates (see page 5)

Name .....

Street .....

City..... **Zone**.... **State**.....

ATF Appoints Four

Helmut Deseke has been appointed Senator cutter technician for ATF's new line of Senator paper cutters, both standard and electronic spacing models. He will participate in the installation of new machines, demonstrations to the trade, and in the training of ATF's sales representatives.

John Cotton has been appointed supervisor of direct mail promotion for American Type Founders Co.

John A. Stenberg has been appointed ATF sales representative in Boston, Mass.

Leon Forrest has been appointed an ATF typesetter technician.

•

Harris Installations

The following firms have installed Harris-Seybold two-color offset presses:

Coburn & Co., Columbian Lithographing Co., Crewdson Printing Co., and Stewart Printing Co., all of Chicago; Milton Bradley Co., and John C. Otto Co., Inc., both Springfield, Mass.; Bright Lithographing Corp., Georgian Lithographers, Inc., both New York; and Rogers Printing Co., Columbus, O.

Clement Colortype, Inc., Chicago, has installed a Harris-Seybold four-color offset press.

•

Charles Snow Advanced

Charles E. Snow has been appointed vice president in charge of manufacturing of Graphic Controls Corp., Buffalo. The vice presidency has been established to provide co-ordination and over-all supervision of Graphic Controls' seven manufacturing centers.

Mr. Snow has been associated with the paper and printing industries since 1927, coming to Graphic Controls from Ditto, Inc., Chicago, where he was manager of the printing division.

•

Ghertner Addresses AMA

American Industry last year spent over one billion dollars on the printing of business forms, Alven S. Ghertner, recently told an American Management Association seminar. Mr. Ghertner was co-chairman of the AMA's Seminar on Office Management held recently at Colgate University, Hamilton, New York. He is president of Cullom & Ghertner Co., Nashville, Tenn.

As co-chairman of the Seminar, Mr. Ghertner is scheduled to deliver a second talk later this week on "Forms Control Management." He also is responsible for moderating a group of seminar discussions on various office management and forms control procedures.

CRAFTSMEN

(*Continued from Page* 51)

book, which was printed on many different types of paper, contributed from numerous plants and paper mills.

To lithographers, two talks at the convention were of utmost interest: by Charles Shapiro, educational director of LTF, who spoke on new developments in offset; and Jack E. Spencer, Western Printing and Lithographing Co., Poughkeepsie, who talked on latest developments for the litho pressroom. (For abstracts of their talks, turn to pages 52 and 53.)

Thomas L. Cooper, of Atlanta, was elected president of the Craftsmen. Other officers are Robert M. Edgar, Pittsburgh, vice president; and Mark Carrothers, Dallas, treasurer.

Elected to the board of governors were Harold E. Sanger, Chicago; Roy Gurney, Toronto; and Robert M. Ritterband, Santa Monica, Cal.★

PIA

(*Continued from Page* 51)

prove their profits and obtain a better working picture of their companies.

• Retiring president Volk, after an

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intensive management audit, submitted to the PIA board a recommendation for a $30,000 expansion in expenditures for 1960.

• The Profit Improvement Activities will consist of four parts: financial conferences; the president's conference (El Mirador Hotel, Palm Springs, Cal., Feb. 7-12, 1960); sales conference (Edgewater Beach Hotel, Chicago, March 24-25); and profit improvement activities workshops.

• The Union Employers section elected Mendel Segal of the Stein Printing Co., Atlanta, as its new head. Other officers include Oran I. Brown, Rand, McNally & Co., Skokie, Ill., 1st vice president; George E. Sheer, McCall Corp., Dayton, O., 2nd vice president; Warren H. Deal, Agency Lithograph Co., Portland, Ore., 3rd vice president; and Robert L. Sorg, Sorg Printing Co., New York, treasurer.

• Max B. E. Clarkson, Clarkson Press, Buffalo, was named head of the Master Printers Section. Assisting him will be J. Paul Whitehead, Heminway Corp., Waterbury, Conn., 1st vice president; Frank C. Corley Corley Printing Co., St. Louis, 2nd vice president; and Joseph W. Edwards, Edwards Brothers, Ann Arbor, Mich., treasurer.

• Sectional meetings of the Rotary Business Forms, Ticket and Coupon, and Trade Binders groups also were held during the week.

Next year PIA will meet at the Sheraton Park Hotel, Washington, D. C., Oct. 24-27.★

TECHNICAL BRIEFS

(*Continued from Page* 86)

and discussed. A new gauge was developed by Colwell Litho Products in cooperation with the Lithographic Technical Foundation. Powerful permanent magnets hold the base of the instrument against plate or blanket with consistent pressure. This base supports a rod carrying a dial micrometer with which packing, blanket, and plate heights can be measured relative to bearer heights, etc. The use of the instrument is described and illustrated.

SOLVING PROBLEM OF WATER-INK BALANCE IN OFFSET PRINTING. I. M. Bernstein. *American Pressman*. Vol. 69, No. 5, May 1959, pp. 25-6, 2 pages. The problem is said to be the "Achilles' Heel" of offset printing. The two approaches to the problem are given as: 1. Fine control of the application of the fountain etch to plate. 2. The influence of the ink itself. The problem is discussed in relation to these two solutions.

MANUFACTURE AND CARE OF OFFSET BLANKETS. Anon. *Offset Duplicator Review*. Vol. 9, No. 5, May 1959, pp. 36, 38, 40, 77, 4 pages. This article consists of procedures, rules, etc., in numbered paragraphs as follows: The Manufacture of Offset Blankets, a list of the six steps in the procedure. Care and Use of Offset Blankets, a list of 7 basic rules to be followed. Glossary and Explanation of Offset Blanket Defects, 23 items.

IN A RUT?

(*Continued from Page* 62)

facturing shows an increase of 39 percent in production during the 10-year base period, with the workers needed to produce this quantity having decreased 6 percent. As near as I have been able to determine, the Average Printing Company has enjoyed little, if any, increase in productivity, which seems to be borne out by the fact that the number of production workers has increased 16 percent as compared with a decrease of 6 percent in all manufacturing per unit of output (pieces, pounds, or 1,000's). It is quite obvious that The Average Printing Company is producing less effectively today than it did a decade ago; and it is also quite obvious it is not holding its own with other industries. This is supported by a study of the census of manufactures, which indicates that, for a 7-year period, all manufacturing added 57 percent in value to its product per man hour as compared with 46 percent for The Average Printing Company. The percentage value of wages to product value for industry, generally, is 49 percent as compared with 59 percent in The Average Printing Company. Thus, it is evident The Average Printing Company has fallen behind manufacturing in output per man hour, while paying more wages per hour for fewer hours worked when compared with all manufacturing. Using data from the PIA Visual Economics program covering the past 100 years, it is apparent other kinds of manufacturing have increased their productivity twice as much as the printing industry.

(*Concluded Next Month*)

RESEARCH BUDGET

(*Continued from Page* 59)

complete manufacturing and printing operations to deliver a finished container. There has been a rash of mergers and consolidations in this industry. Diamond-Gardner is currently negotiating the acquisition of the U. S. Printing and Lithographing Company. It would seem logical for some paper companies to consider, in their growth programs, the manufacture of complete consumer products, such as printed sheets.

Future Planning

The foregoing considerations indicate things for printing management to keep in mind in planning for the future. Obviously, the future is not going to be easy. Only the more efficiently managed units will operate profitably. It is obvious also that the days of phlegmatic, inflexible, wait-and-see management are numbered. Every effort must be made to have a management that is on its toes, well informed, and that can make decisions swiftly and act promptly. In order to be adequately informed, management must seek and obtain full information about new developments and technological changes. This management must be versatile—able to understand the technology of new equipment and processes, able to deal with new crafts and personal skills, able to seek out and find the necessary capital. It is not enough to be informed. This information must be evaluated as to possible effects on your printing accounts, upon your competitive position and your plans for growth. Capital outlays may have to be increased. It may be necessary to acquire new skills and training.

I recently heard that a well-adjusted executive is one whose intake of pep pills overbalances his consumption of tranquilizers just enough to leave him enough energy for a weekly visit to the psychiatrist. This is not the type of executive that will succeed.

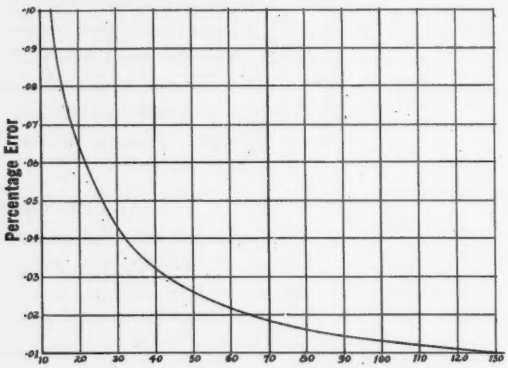
One procedure to obtain the benefits of top flight management is through consolidating with or acquiring another company. This is now being done in many industries. Mer-

ACCURATE SIZE

(*Continued from Page* 58)

will coincide at 11 and 12 respectively.

The finer the line patterns, the more delicate is the precision. I have found that a pattern of 150 and 154 lines per inch at each side of the master pattern works very well. *Fig. 7* is the graph for that pattern and, as you see, it



Number of Phase Pattern Bands Against One More

covers a range of "inaccuracy" of size from .01 percent to .1 percent. An error of .01 percent is one part in 10,000, namely one-hundredth of an inch large or small in over eight feet! For that precision one needs a master line tint strip about 34 inches long, because the coincidence is between 134 and 135 phase bands (at about four per inch) but one can halve the length (use, say, a 20″ strip) if one matches for coincidence to half a phase, where a dark band coincides with a light band—so a 20″ inch long master pattern will check accuracies to a tolerance of the order of at least 1¼ thousandths per foot! That is distinctly tight working!

Of course, there is no need actually to *count* the number of bands; if one knows the coincidence occurs at about 17 inches distance, for instance, it can be decided that a coincidence at less than that distance means a reject and at longer implies acceptance, and one scarcely cares how good the accuracy is so long as it is within the tolerance.

All the foregoing has related to same size reproduction, of which a great deal is done, in engineering template work, for instance. If one wishes to work at some other scale, such as at quarter size, for instance, one makes the initial master line pattern strip at a quarter of 150 and 154 lines per inch, namely 37½ and 38½ lines per inch, so that they are of the right number when reduced to the required quarter size. The job is then measured very accurately by whatever method was used in the past and the reduced line pattern strip is retained for laying on all future jobs photographed with the coarse line pattern beside them. Knowing the error of the reduced "master" pattern, it is easy to use the graph (*Fig 7*) to work out whether any future job is within the tolerance.

One could almost write a book upon this vernier phase pattern technique, but I am sure I have given enough detail for many readers to do the rest themselves if they intend to use it, and please do not forget that I shall be delighted to reply to any letters you send to me upon the subject and to do my best to assist you over any problems that you have with it.★

---

gers and acquisition also make available advantages of additional capital, purchasing volume and facilities, and production knowhow. In view of the capital investments involved in the purchase of new equipment, it is important to keep the equipment fully scheduled. This can sometimes be accomplished in a mutually beneficial manner through an acquisition.

Large companies will have problems also. They may find that they are too centralized, particularly in respect to their production units. The pattern of population growth and distribution indicates potential advantages in shipping costs and labor supply through decentralization. Improved scheduling and servicing can also be expected when the production plants are moved closer to the markets.

A promising means of insuring markets for some printing companies is through specialization. Some of the best opportunities for the smaller firms may be in the production of a highly specialized printed product. Printing management must carefully consider all of the factors involved before making a decision to tie a company's future to any one product or process, however.

The trend for customers to deal directly with art studios, platemakers, composition companies, and other trade-supply organizations continues to increase. Practically all of these services were formerly supplied by the printer or channeled through the printer. This trade custom does presage a loss of business to the printer and must be considered in planning.

One way to reverse this trend is by starting and continuing an aggressive sales program with well-informed, effective salesmen. You printers know, better than anyone else, what kinds of materials affect printing quality and what kinds of printing will bring results. You are familiar with every phase of the preparation and production of a printed job. Your experience and knowledge is worth a lot to your customer, if he knows about your competence and you gain his confidence. It is your job to inform him and sell him. Your customer may be like the sales manager who called in a new man after six months of work and said, "Tell me again how good you are, I am losing confidence." All planning for the future should include a well-organized, hard-hitting sales effort.

The instrument panel of a Photon resembles that of an airplane. The mechanisms in a Photon are equal in number and complexity to those of a computing machine. In like manner, the new one-bite powderless etching machines have conditions of operation that have been established for each.

The operator can set the dials, operate switches, perform needed analytical determinations, and operate the machine with a minimum of instruction. Skill in the operation of the machine is acquired through experience. The craftsmanship of the photoengraving etcher, which helped him determine how long to etch and in which parts of the plate is no longer as essential as it has been. The operator must depend upon technically trained people to repair or adjust the machine, or to establish proper relations between new conditions of operation, or in the use of new chemicals.

Most of the new developments utilize critical conditions of operation involving chemistry, photochemistry, electronics, electrostatics, hydraulics and many other areas of science and engineering. The investment in such equipment is sizeable. It must be kept busy and operating at top efficiency. In the operation of phototypesetting machines, it is necessary for a craftsman to specify type faces, sizes, line length, spacing and any other pertinent data. The operation of an electronic engraver, a one-bite etching machine, and some of the other new pieces of equipment also requires specification and the preparation of a procedure formula to be followed in the operation of the machine.

The noncraftsman operator can produce the work by setting dials, establishing conditions of operation and using control procedures. The maintenance of the machines requires technically trained men in the fields involved. It points up the need for employing technically trained personnel for supervising the operation of new technical developments and equipment.

In-line equipment has achieved outstanding success in the printing of folding paper boxes and in some bindery operations. The increased use of this principle in printing operations, particularly as it applies to materials handling, offers an interesting possibility for unit cost reduction.

Research

In order to protect the markets for printing and to provide for a healthy growth, the printing industry must support research to an extent greater than has been the case. As a research man having extensive experience with graphic arts problems, I recognize that the one-tenth of one percent of sales that is now being spent by this industry for research is wholly inadequate. The situation is even more unfavorable when we recognize that over a third of the research and development funds of this industry is being spent by a customer. Many industries find it necessary to spend three, four, and five percent of their sales for research. Some spend about eight percent.

Research does pay off. The Exposition was full of splendid results of research effort. I have already mentioned a number of dramatic products of research and development programs. We can be misled by averages—like the man who wanted to wade across a small river. He asked a farmer working nearby what was the average depth of the river and was told about three feet. He then started to wade across, walked into a six-foot deep hole and was drowned. He had put too much faith in averages.

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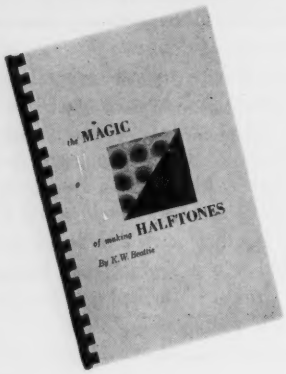

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Each company should have an adequate research budget to spend on in-plant research or to use for participation in cooperatively-sponsored research efforts. A figure of one percent of sales is recommended as a minimum. This sum would permit affiliation with research organizations within your industry, the purchase of reference books and trade magazines, and attendance at technical meetings. It would also provide funds to join in initiating broad research studies on processing operations, which are needed by your industry.

The printing industry should do a thorough job of self-analysis and make known its technical needs. Otherwise the equipment and supply companies will develop what they think you should buy, and you will have little part in guiding your own technical destinies.

If research money is not available for studies of printing industry problems, the best research talent will seek other industries to apply its efforts. Preventive research is the most economical type. The industries that waited until the market was lost—then pushed the panic button—are paying dearly for every bit of regained ground.

Conclusion

In conclusion, I wish to present five recommendations to printing management for effective operation in this period of a rapidly changing technology.

1. *Assign one person within your organization to keep informed about new developments.*

This person should be one of the management team who has access to the top executives and whose opinions are respected. He should report all of the information obtained to the management of the company. The information should then be evaluated as to its impact on company operations and growth. Appropriate action should then be taken.

2. *Organize to move swiftly.*

Competitive advantages can be quickly achieved through the purchase of new equipment which permits lower unit cost of production. With full information about new developments and knowledge of your own operations, decisions can be confidently made. Management must be able to recognize quickly the potential of new developments and move rapidly to gain these advantages.

3. *Employ technically trained personnel.*

When modern, highly technical equipment and processes are installed, it is essential that a technically trained man be assigned the responsibility of their operation. All other industries do this. The higher unit plant investment must have this assurance and protection.

4. *Plan ahead for sizeable capital investments.*

New equipment costs will continue to increase. Capital must be provided for purchases of equipment and plant facilities in all planning for the future.

5. *Support research.*

Allocate one percent of your sales for research investment by your company. Plan research expenditures carefully, and make use of the results you get. Research results are of value only if they are applied.★

EDITORIAL

(*Continued from Page* 47)

sentations keep the printers and lithographers well informed and prevent them from being isolated from the main stream of their industry. Furthermore, at least for lithographers, the annual NAPL exhibit does a fine job of filling in between the more extensive expositions every 10 years.

Yes, despite all the headaches, confusion, sweat and strain and cash outlay, the expositions always seem to pay off equally well for the exhibitors and the visitors, who were high in their praise of the one just completed.★

LETTERS

(*Continued from Page* 18)

pupils to appreciate the printing field. Some will grow up to be part of the

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printing industry. Most in-school attention to the printer's work results in good public relations, and assures an even greater acceptance and appreciation of their activities, for the future!

Miss Ruth K. Stroh,
Cockeysville, Md.

HEART OF STONE

(*Continued from Page* 71)

The prover, and, later, the transferrer, used the marks when they registered one color over another in the press.

Eight or ten stones might be stamped with identical lines in red chalk, depending upon the number of colors in the finished picture. The lithographer would draw each color in successively, adhering to the red chalk outlines, filling in with tusche or printer's ink wherever the full strength tint or complete color was required. The lithographic crayon or the stipple process were used to reproduce the various gradations of color.

The prover next saturated the lithographic stone's surface with a turpentine-soaked sponge. The stone was dried with a fan and again saturated, this time with a water-soaked sponge. The black printer's ink was applied by means of a roller. The ink's greasy matter was absorbed and held by the stone. It repelled water and attracted grease. The impression, or picture, was thus made with black printing ink on paper which had been passed through a hand press over the lithographic stone. When the lithographer or prover approved the black impression, the lithographic stone was cleaned with turpentine and the impression was ready to be made in color, stone by stone, color by color, until the tinting of the outlined picture was completed.

Lithographic Photography

In its original sense, photo-lithography involved the use of a negative in place of the lithographic key stone or plate. The prints in photo-lithography were made from a negative on the sensitized portion of the stone, or on as many color plates, or stones, as the key plate or stone required.

In the early days of lithography, the original lithographic stones were used to print from for small editions. However, when a big edition of an original picture or design was required, "transfers" were used. The original stones were rolled up with a special ink and transfers were taken on a paper whose surface had been coated with a sizing or mixture of starch, flour and glycerine.

Transfer Paper

With the introduction of transfer paper, a number of copies of the original plate or stone could be made. For example, from an 8" x 10" impression, 15 copies could be made on one 30" x 40" sheet when transfer paper was used. In turn, the same method of reproduction could be used for each of the color plates. Accordingly, the first imprint made upon the transfer paper would represent the key plate by which the tinting process would be guided.

Before the invention of photo-engraving, which followed lithography, there was no method of producing unlimited multiple copies.

Quality of Paper

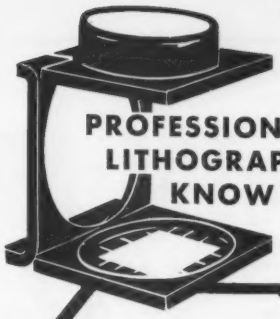
The quality of the paper used for a lithograph always has been very important. The fact that so many fine, early American lithographs have survived the ravages of time is testimony to the proof that good paper was used. The great etcher, John Winkler, is quoted as saying that the paper "is all that stands between an etcher's plate and posterity."

Spread To America

Following its invention by Senefelder in 1798, lithography quickly spread to America where Bass Otis, a scythemaker's apprentice who had painted many portraits, is credited with making the first lithograph in the United States.

First Commercial Lithographers

The Pendletons of Boston have been credited with being the first commercially successful American lithographers. They issued prints of both Gilbert Stuart's and Rembrandt Peale's likenesses of George Washington. From those early lithographs stem varied



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versions published by a dozen subsequent lithographers.

Rich in Americana, these imprints taken from stone offer historical data rich in detail; detail which otherwise might have been lost to posterity. Although Currier & Ives produced the most works in number, other lithographers, before and after them, contributed much to American stone art, and, without them, the overall stone picture would not be complete ★

SPENCER

(*Continued from Page* 55)

through an inking form roller and not through the conventional separate dampening rollers. In this case, a pan roller transfers water to a chromium plated roller which, in turn, transfers the water to an inking roller. In other words, this inking form roller is first covered with ink, then water. It transfers both to the plate. The other inking form rollers are conventional. They have no water directly applied to them. The Dahlgren system is practical and available for small size presses. Experiments are being made with this unit on 76″ presses, and it appears likely that the system will work successfully on larger presses. (For full description see ML, June, page 32.)

THERE ARE some other developments impending in dampening systems which are still in the laboratory stage but which, in addition to the two innovations just mentioned, are going to have a profound effect on lithography as we know it today. We should, for example, achieve better water control, more brilliancy of color, less downtime and cost of changing rollers, and perhaps even run coated sheets without the need for special sizing to resist water. Certainly the outcome will be better water control and, therefore, better quality for the customer.

THERE IS a sheet cleaning unit available which is, in effect, a vacuum cleaner. It consists of a vacuum slot, or head, which runs the width of the press and is equipped with brushes attached to either side of the slot. These brushes help to loosen the lint, and the vacuum carries it away. A good part of the non-offsetting spray powder can be removed from the sheet if it runs through the press more than once. This can be of help in reducing linting and hickies, particularly on certain types of paper.

WE HAVE built for all our offset presses a delivery platform which is flush with the floor. This eliminates the need for unhooking the cables, or chains, and pulling the bars out from underneath the skid when changing a load. It requires about a 2⅜″ recess into the floor but is a very definite time saver. A platform which would be flush with the floor will also be available for the feeder, but it will require a pit of about six inches.

AS MENTIONED previously, the introduction of web-offset is a comparatively recent development. Almost all of the web-offset presses are perfecting presses; that is, they print both sides of the sheet—one, two, three, four, or more colors. There are several design principles available. One is the blanket-to-blanket type, in which the paper travels between two rubber blankets, with each rubber blanket printing a color. There is a press available in which all of the colors print onto one common impression cylinder.

At Poughkeepsie, we have an eight-color web-offset which prints four colors on each side of the sheet, with a common impression cylinder for each two colors. This press will run a roll up to 50″ wide with a 43″ cutoff at a speed of 1,000 feet a minute. It delivers the printed units in sheet form because the press was primarily designed to print magazine covers. Although running at a much greater speed than is possible on sheet-fed equipment, this press produces work of comparable quality.

Perhaps because we were forced into it of necessity, the plates for this press are preregistered to a bent edge. Each plate is shot with positioned register

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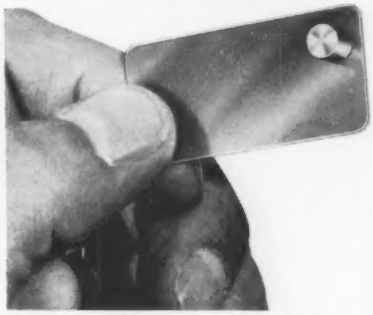

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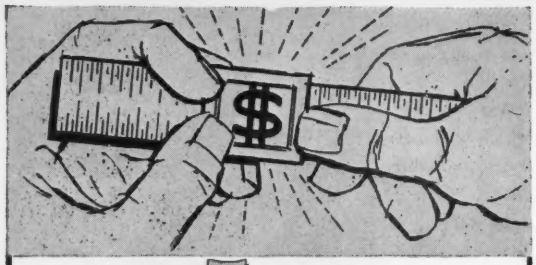

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marks. After the plate is developed it is placed in a bending jig with the register marks lined up with marks which are scribed on the bed of the jig. The front and back edge of the plate is then bent over. On each plate the register marks are the same distance from the bent edge of the plate. When the plates are put in the press they are all relatively in the same position on their cylinder. What is also most important, the work on the plate is squared to the plate cylinder itself. If necessary, it is possible to make peripheral, or sideways, adjustments of the plate cylinder while the press is running. Due partly to this ease of color registration, it is possible to make-ready an eight-color job in three to four hours.

EVEN THOUGH great strides have been made recently, there is no doubt but what the future holds even greater promise of many new and revolutionary developments. It will be a great challenge to all of us in the industry and an exciting time to be part of it.★

SHAPIRO

(*Continued from Page* 54)

as a routine thing.

ANOTHER, less significant, development in the area of platemaking, but mentioned because it is new, are coatings which can be wiped on the plate instead of being whirled on. Other coatings which can be put on the plate in spare time and the plate further processed several days later are also coming into practical use. This latter technique is one on which the industry has been working a long time because it gives us the advantages of a presensitized plate while retaining the advantages of a plate coating whose exposure and development can be manipulated to produce some specially desired result. Getting back to grain again, LTF recently developed a brush-graining technique which quickly and cleanly produces an extremely fine grain.

WHEN WE talked about what has happened at the photographic steps in the process, I briefly mentioned masking. In the last two years the Foundation has presented to the lithographic industry a completely new concept of full-color reproduction. Not all the details of this concept, and the procedure it entails, are new.

What LTF has done is to develop a complete system for color reproduction and its control. This started with something that has always been known and which has been advocated for many, many years. It is called standard process colors. In practice colors were being matched to the job after it went to press. This is still the accepted practice. LTF's new system requires, first, that colors of ink be predetermined and in balance. Mind you, this is done *before* the job is started.

We have developed simple plant techniques for measuring and testing these inks with respect to their effect on the reproduction of full-color work. From such measurements, the kind of photographic color correction that should be applied is easily determined by the craftsman. At this point two things are accomplished:

1. Considerable saving in the time normally spent by a lithographic artist in retouching and dot-etching.

2. Elimination of most handwork, making it possible to preserve most of the photographic qualities of the original full-color copy.

Along with this, the Foundation makes available to the industry sets of positives or negatives of a color chart. While LTF designed this color chart, the design itself isn't significant. The significant thing is that the system requires the lithographer to make his own plates from these positives or negatives, run them on his press, on the papers he uses, and with the sets of balanced inks that he finally adopts as a result of the testing of the inks, mentioned earlier.

Color charts are nothing new. All the large, old-line lithographers who are doing full-color work, whether art prints or labels, have their own color charts designed and printed in their

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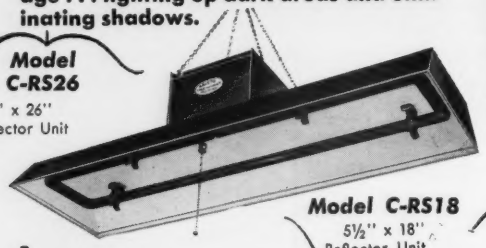

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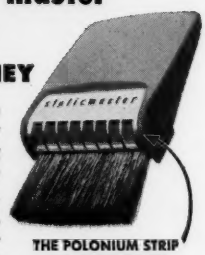

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own plants. But the idea of doing this with each set of process inks — there are times when one standardized set is not adequate — is new. What we now have is actual proof of what a plant's platemaking and pressroom will do with a set of inks, on a particular paper, so that the gallery and the art department can do the preparatory work, which will result in exactly duplicating an established standard.

I would like to dwell for a moment on this problem of standardized balanced inks. Here is just one example of why a single set of such inks is not possible. There are many full-color jobs whose reproduction is not handled in the normal three-color-plus-black combination. Instead, they are done with the usual three color plus a dark blue instead of the black. In this case, the inks are tested for their use on this kind of work and proved on the papers which are going to be used. This becomes the color chart for the use of the people who are going to prepare the negatives or positives from which plates are made.

With the charts the salesman and the customer know in advance what can and cannot be done with respect to colors. For example, certain purples are, by themselves, rather difficult to obtain in normal four-color production. If they are absolutely required, then it can be shown by the use of previously printed charts that certain other colors must suffer. It then becomes possible to make the required changes with little or no guesswork, or to decide that extra colors will be run in order to satisfy several conflicting color requirements.

Here's another sidelight that comes out of this work of LTF's: We all know that a tint is a color to which white has been added, and most of us have always assumed that if we take a color and break it up with a tint screen, and print it on a so-called white paper, the result will be the equivalent of a tint. But this, in actual practice, is not true. What really happens is that the original color is grayed and, therefore, instead of being a pure tint, approaches a shade of the color. This, obviously, causes considerable problems with respect to the color correction which a job will require so that the finished product will resemble the original. Here again, the LTF system makes it possible to measure these effects in advance and do the original color correction largely, if not entirely, by photographic techniques.

Within the past two years, LTF has made a comprehensive study of the effect of paper color on the final results of full-color reproduction. This has led to development of practical techniques for measuring this in advance so that adjustments in the process, or in the demands of the customer, can be made before the job starts through the plant, rather than after the job goes to press.

LET ME give you a quick rundown on what I see in the crystal ball for future plates.

I see continuous-tone printing by the lithographic process. Many attempts have been made over the years to accomplish this. Collotype comes very, very close and is widely used, especially in the field of art reproduction; but attempts to apply the conventional lithographic process to this kind of work have not succeeded as yet. Here again, let me point out that this isn't just a vision. At our laboratory we have made and run successful experimental full-color plates. However, the techniques require such extremely critical handling as to make them impractical, at this time, in normal plant operation.

I SEE image and non-image areas on the plate which are created through newer processes so that the so-called grease-water reaction is not required. And when this is accomplished, another small step forward will give us multicolor printing from a single plate.

Much of what I have said here may leave the feeling that there are some magicians at our laboratory in Chicago; and there are. But, LTF goes a very, very long step forward in that it is continually demonstrating these techniques to lithographic craftsmen at our technical forums all over the country.★

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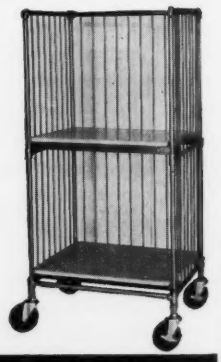

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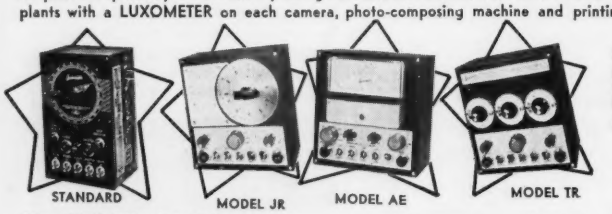

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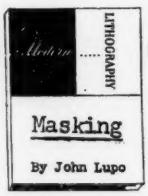

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ALA, ITU Cooperate

A leading ALA official told the convention of the International Typographical Union in August that the pact signed by the two brotherhoods last December has brought them closer together than at any time in their history.

Kenneth J. Brown, assistant to the president of ALA, speaking in Philadelphia, said that minor setbacks in isolated areas "should not stand in the way of even closer cooperation in the future."

Mr. Brown reviewed the reasons for the agreement signed last December. "A flash flood of technological developments has made conditions in the graphic arts industry fluid. Economic and competitive factors in the printing business have been completely revised. The traditional lines between crafts have been obscured. It is no longer possible to solve jurisdictional problems merely by physically separating the workers."

•

Finch Pruyn Expands

The modernization of the finishing and converting department of Finch, Pruyn and Co., Inc., Glens Falls, is rapidly nearing completion. A new building was recently erected for the expanded finishing, converting and paper stocking operations. The entire layout was designed for efficient processing of three paper machines capable of turning out many different types of paper.

•

Northwest Paper Kit

Having recently installed a new Fourdrinier paper machine at its Brainerd, Minnesota mill, Northwest Paper Co. has just issued a complete kit on fine paper. Included are samples of "Mountie Offset," greeting card stock, and other fine papers. Also included, is a booklet on "The Manufacture of Paper," a historical sketch on the Northwest Paper Co., and a fact sheet on pulpwood procurement.

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TALE ENDS

GRAPHIC arts suppliers can rest easy for another decade. The Graphic Arts Exposition is safely behind us. Sept. 6-12 was probably the busiest week in the history of the graphic arts. Seven full days of exhibits and a dozen related meetings combined to make New York a madhouse of printing and lithographing activity last month, and the Spectra show added to the already packed schedule of events. The unseasonal heat combined with the heat from printing and litho presses to put the Coliseum's air-conditioning to rout at an early hour.

•

The Sunday afternoon scene in the giant exhibition hall was quite hectic, what with men, women and children by the thousands tramping through the two exhibition floors piling booklet upon booklet and brochure upon brochure for later study. But the real scene of confusion occurred Friday and Saturday before the opening, with last minute erection of precision presses, cutters and binders cluttering up almost every inch of available space.

•

There were long waits for truck unloadings, in some cases, and the labor fees at the Coliseum were anything but nominal. Still, by 1 p.m. on Sunday, nearly every display had been completed down to the smallest detail, ready for the onslaught of visitors.

•

First group to troop en masse through the exhibit were the Craftsmen, followed by PIA a day or two later. Then there were special delegations from nearby cities, including a busload sponsored by the Philadelphia Litho Club.

•

It would be hard to get an exact figure for the week's attendance, but several observers declared that 100,000 was a conservative estimate.

•

Down the street, an official of Spectra judged that that show, comprised in large part of foreign equipment, drew about 30,000.

•

Herb Paschel, at the Spectra show, reported exhibitors were happy with the turnout of interested printers and lithographers. Featured at Spectra were four technical panels, on theory of color, practical problems in color, printer-buyer relationships and preparing art and copy.

Among the visitors was a good representation from Canada, Europe and Japan, many of whom were ready to put cash on the barrel top for items that attracted their attention.

•

Quite a nice cocktail lounge and cafeteria were available for use at the Coliseum, along with the scores of restaurants of all types for which New York is famous, but a sizable number of exhibitors, and even some visitors, enjoyed a somewhat limited diet of hot dogs and root beer, gulped at nearby refreshment stands, for most of the week.

•

All during the week, several booths drew big crowds by producing a wide variety of printed matter. ATF pressmen lithographed many thousands of place mats and other sheets, while a somewhat harried Davidson attendant turned out a quite creditable process color job. Several other jobs were turned out by neighboring exhibitors.★

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